ANALYTICAL DATA PACKAGE
SDG # 1501102

PROJECT NAME: RADFORD ARMY AMMUNITION PLANT
PROJECT LOCATION: RADFORD VA
CONTRACT #: W912QR-04-D-0027 DA101

SUBMITTAL TO:
Eric Malarek
CB&I FEDERAL SERVICES, LLC
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Belcamp, MD 21017

SUBMITTAL BY:
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THIS DOCUMENT MEETS DoD QSM 4.2 STANDARDS

The results relate to only the samples associated with the referenced SDG and the submitted data has been produced in accordance with laboratory procedures. The Laboratory's Technical Lab Director, Mr. Rick Davis, is responsible for the final data produced and reported. His signature is listed at the end of the Case Narrative within the Analytical Data Package. If applicable to this report package, details on report revisions and the information on subcontracted analysis are listed in the package Case Narrative. This report shall not be reproduced, except in full, without the written approval of Empirical Laboratories, LLC.

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Sample Delivery Group Case Narrative

Receipt Information:
The samples were received within the preservation guidelines for the associated methods. The information associated with sample receipt and the Sample Delivery Group (SDG) are included within section 4 of this package, which also provides information on the link between the client sample ID listed on the COC and laboratory's assigned unique sample ID or WorkOrder #. The sample is tracked through the laboratory for all analysis via the assigned WorkOrder #.

All samples that were received were analyzed and none of the samples were placed on hold without analyses. There were no subcontracted analyses for this SDG.

The following issues were discovered with the COC and/or samples upon log-in:

1. One preserved VOC vial for sample 49MW04 (1/26/15@0935) - had pea-size headspace present.

Changes to the Revision:
This is an original submittal of the final report package.

Analytical Information:
All samples were prepped (where applicable) and analyzed within the standard allowed holding times, unless noted within the exceptions listed below. The laboratory analyzed all samples within the program and method guidelines. Sample preparation and dilution information is provided within the final results report and at the beginning of each form set. The following information is provided specific to individual methods:

SW8260B:
Note – Sample 1501102-06 was analyzed at a 2x due to the sample foaming during screening. No lower analysis was performed.

No additional anomalies or deviations are noted.

RSK175 MEE:
No anomalies or deviations are noted.

Wet Chemistry:
The following blanks have concentrations greater than ½ the LOQ:
5A27016-BLK1 for Chloride
Note – The concentrations in the associated samples for Chloride are greater than 10x the

concentration in the blank with the exception of sample 1501102-04 which was re-analyzed as 1501102-04RE1.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

Data Qualifiers:

As applicable and where required, the following general qualifiers are associated with the sample results. Additional qualifiers will be specified within the reporting sections of the data package or within the body of the Case Narrative.

Analytical Report Terms and Qualifiers

DL: The detection limit (DL) is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The DL is supported by the method detection limit (MDL) which is determined from analysis of a sample containing the analyte in a given matrix.

LOD: The Limit of Detection is an estimate of the minimum amount of a substance that an analytical process can reliably detect. An LOD is analyte- and matrix-specific and may be laboratory-dependent. This definition is further clarified in the DoD QSM 4.2 revisions as the smallest amount or concentration of a substance that must be present in a sample in order to be detected at a high level of confidence (99%). At the LOD, the false negative rate (Type II error) is 1%.

LOQ: The Limit of Quantitation is the minimum level, concentration, or quantity of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. This term is further clarified within the DoD QSM 4.2 as the lowest concentration that produces a quantitative result within specified limits of precision and bias.

*****: Exceeding quality control criteria are associated with the reported result.

B: The presence of a "B" to the right of an analytical value indicates that this compound was also detected in the method blank and the data should be interpreted with caution. One should consider the possibility that the correct sample result might be less than the reported result and, perhaps, zero.

D: When a sample (or sample extract) is rerun diluted because one of the compound concentrations exceeded the highest concentration range for the standard curve, all of the values obtained in the dilution run will be flagged with a "D".

E: The concentration for any compound found which exceeds the highest concentration level on the standard curve for that compound will be flagged with an "E". Usually the sample will be rerun at a dilution to quantitate the flagged compound. For Metals, the qualifier indicates that the serial dilution was outside of the control limits and the compound should be considered estimated due to the presence of interference.

H1: The result was analyzed outside of the EPA recommended holding time.

H2: The result was extracted outside of the EPA recommended holding time.

H3: The sample for this analyte was received outside of the EPA recommended holding time.

J: The presence of a "J" to the right of an analytical result indicates that the reported result is estimated. The mass spectral data pass the identification criteria showing that the compound is present, but the calculated result is less than the LOQ. One should feel confident that the result is greater than zero and less than the LOQ.

M: Indicates that the sample matrix interfered with the quantitation of the analyte. In dual column analysis the result is reported from the column with the lower concentration. In inorganics, it indicates that the parameters DL/LOD/LOQ have been raised.

N: The MS/MSD accuracy and/or precision are outside criteria. The predigested spike recovery is not within control limits for the associated parameter.

P: The associated numerical value is an estimated quantity. There is greater than a 40% difference between the two GC columns for the detected concentrations. The higher of the two values is reported unless matrix interference is obvious or for HPLC analysis where the primary column is reported.

Q: The relative percent difference (RPD) and/or percent recovery exceeded limits in the associated Blank Spike and/or Blank Spike Duplicate.

S: The associated internal standard exceeded criteria.

U: The presence of a "U" indicates that the analyte was analyzed for but was not detected or the concentration of the analyte quantitated below the DL.

X: The parameter shows a potential positive bias on a reported concentration due to an ICV or CCV exceeding the upper control limit on the high side.

Y: The parameter shows a potential negative bias on a reported concentration due to an ICV or CCV exceeding the lower control limit on the low side.

Z: The parameter shows lack of confirmation/detection, which may be due to a negative bias in the ICV or CCV which exceeds the lower control limit.

Chromatographic Flags for Manual Integration:

The following letters are used to denote manual integrations on the laboratory's raw data in association with chromatographic integrations:

A: The peak was manually integrated as it was not integrated in the original chromatogram.

B: The peak was manually integrated due to resolution or coelution issues in the original chromatogram.

C: The peak was manually integrated to correct the baseline from the original chromatogram.

D: The peak was manually integrated to identify the correct peak as the wrong peak was identified in the original chromatogram.

E: The peak was manually integrated to include the entire peak as the original chromatogram only integrated part of the peak.

LIMS Definitions / Naming Conventions:

The following are general naming conventions that are used throughout the laboratory; however, on a method by method basis, there are additional QAQC items that are named in a consistent format.

BLK: LIMS assigns a unique identifier to the Method Blank by naming it as the letters BLK

appended to the Batch ID. A Method Blank is an analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The Method Blank is used to assess for possible contamination during preparation and/or analysis steps. Method Blanks within a Batch or Analytical sequence will be appended with a numerical value beginning with 1 that will increase incrementally.

BS: LIMS assigns a unique identifier to the Blank Spike by naming it as the letters BS appended to the Batch ID. The Blank Spike or Lab Control Sample is a controlled analyte-free matrix, which is spiked with known and verified concentrations of target analytes. Spiking concentrations can be referenced in the method SOP. The BS is used to evaluate the viability of analytes taken through the entire prep (when applicable) and analytical process. Blank Spikes within a Batch or Analytical sequence will be appended with a numerical value beginning with 1 that will increase incrementally. A duplicate Blank Spike will be designated as a BSD.

MS: The LIMS assigns each Client sample with a unique identifier. The Matrix Spike is designated with a MS at the end of the sample's unique identifier. The Matrix Spike sample is used to assess the effect of the sample matrix on the precision and accuracy of the results generated using the selected method. A duplicate Matrix Spike will be designated as a MSD.

IDs: The LIMS assigns each Client sample with a unique identifier. The letter "RE" may potentially be appended to the end of the LIMS Sample ID. And "**RE"** implies that the sample was either re-prepped, re-analyzed straight, or re-analyzed at a dilution. Subsequent re-analysis for the sample will be appended with a numerical value beginning with 1 that will increase incrementally. Eg: RE1, RE2, RE3, etc.

Statement of Data Authenticity:

I certify that, based upon my inquiry of those individuals immediately responsible for obtaining the information and to the best of my knowledge, the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, with the exception of the conditions detailed in this Case Narrative, as verified by my signature below. During absences, the Data Quality Manager, Technical Directors or Project Managers are authorized to sign this Statement of Data Authenticity.



Mr. Rick D. Davis
Laboratory Technical Director / VP Operations

Empirical Laboratories, LLC
Certifications/Approvals
(Revised 02/06/2015)

DoD ELAP QSM5.0, Certificate Number L2226
- Aqueous
- Non-aqueous
- Expires: 11/30/2015

State of Florida, Department of Health – NELAP, Lab ID: E87646
- Clean Water Act
- RCRA/CERCLA
- Expires: 06/30/2015

State of Georgia, Environmental Protection Agency – NELAP, Self Certification
- Expires: 06/30/2015

State of Illinois, Environmental Protection Agency – NELAP, Certificate Number: 003464
- Groundwater
- Solid and Hazardous Waste
- Expires: 09/13/2015

Commonwealth of Kentucky, Energy and Environment Cabinet – WWLCP, Laboratory Number: 98017
- Wastewater
- Expires: 12/31/2015

Commonwealth of Kentucky, Department of Environmental Protection – UST, Certificate Number: 77
- Aqueous
- Non-aqueous
- Expires: 06/30/2015

State of New Jersey, Department of Environmental Protection – NELAP Primary, Lab ID: TN473
- Water Pollution
- Solid and Hazardous Waste
- Expires: 06/30/2015

State of North Carolina, Department of Environment and Natural Resources - Certificate Number: 643
- Aqueous
- Non-aqueous
- Expires: 12/31/2015

State of North Dakota, Department of Health – NELAP, Certificate No.: R-204
- Aqueous
- Non-aqueous
- Expires: 06/30/2015

Commonwealth of Pennsylvania, Department of Environmental Protection – NELAP, Lab ID: 68-05374
- Aqueous
- Non-aqueous
- Expires: 10/31/2015

State of Texas, Commission on Environmental Quality – NELAP, Certificate Number: T104704307-15-11
- Aqueous
- Non-aqueous
- Expires: 12/31/2015

State of Utah, Department of Health – NELAP, Certificate Number: TN0042014-6
- Aqueous
- Non-aqueous
- Expires: 07/31/2015

Commonwealth of Virginia, Department of General Services – NELAP, Certificate Number: 7596, Lab ID: 460243
- Aqueous
- Non-aqueous
- Expires: 12/14/2015

State of Washington, Department of Ecology – NELAP, Lab ID: C934-14
- Groundwater
- Solid and Hazardous Waste
- Expires: 03/18/2015

ORGANIC CALCULATIONS

GC/MS Volatiles

$$\text{Final Concentration} = \frac{\text{On-column(ug/L or ug/Kg) * Expected Vol/Weight (mL or g) * Dilution}}{\text{Initial Vol/Weight (mL or g) * (Percent Solids/100) (if applicable)}}$$

Note - Expected Vol/Weight value is found in "Final Vol" column of Preparation Batch Summary.

GC/MS Extractables

$$\text{Final Concentration} = \frac{\text{On-column(ng/uL) * Final Vol (ml) * Dilution *(1000uL/mL)}}{\text{Initial Vol/Weight (mL or g) * (Percent Solids/100) (if applicable)}}$$

= ng/mL or ng/g

= ug/L or ug/kg

GC or LC Extractables

$$\text{Final Concentration} = \frac{\text{On-column(ng/mL) * Final Vol (mL) * Dilution}}{\text{Initial Vol/Weight (mL or g) * (Percent Solids/100) (if applicable)}}$$

= ng/mL or ng/g

= ug/L or ug/kg

Sample Receipt Information

1501102

EMPIRICAL LABORATORIES, LLC - CHAIN OF CUSTODY RECORD

25439

SHIP TO: 621 Mainstream Drive, Suite 270 ♦ Nashville, TN 37228 ♦ 877-345-1113 ♦ (fax) 866-417-0548

Send Results to:	Send Invoice to:
Name Eric Malavet	Name
Company CBI Fed Serv.	Company
Address 4696 Millennium Dr	Address
City Belcamp	City
State, Zip MD 21014	State, Zip
Phone	Phone
Fax	Fax
E-mail Eric.Malavet@CBIFederalServices.com	E-mail
Project No./Name:	Sampler's (Signature):

Analysis Requirements: VOC (HCl) | RSK (HCl) | Anion (Nitric) | TOC (H2SO4)

Lab Use Only:

VOA Headspace	Y	N	NA
Field Filtered	Y	N	NA
Correct Containers	Y	N	NA
Discrepancies	Y	N	NA
Cust Seals Intact	Y	N	NA
Containers Intact	Y	N	NA

Airbill #

CAR #

Lab Use Only Lab #	Date/Time Sampled	Sample Description	Sample Matrix	VOC	RSK	Anion	TOC	Comments	No of Bottles	Lab Use Only Containers/Pres
01	1/26/15 925	13MW3	GW	3	2	1	1		7	
02	1/26/15 935	49MW04	GW	3	2	1	1		7	
03	1/26/15 935	Trip Blank # 14-0841	GW	2					2	
04	1/26/15 1110	13MW2 ~~1110~~	GW	3	2	1	1		7	
05	1/26/15 1120	13MW4 ~~1120~~	GW	3	2	1	1		7	
06	1/26/15 1255	49MW05	GW	3					3	
07	1/26/15 1310	13MW5	GW	3					3	

Relinquished by (Signature)	Date/Time	Received By (Signature)
	1/26/15	
Relinquished by (Signature)	Date/Time	Received By (Signature)
Received for Laboratory by (Signature)	Date/Time	Temperature
	1/27/15 0845	3.7

REMARKS

Details

Page 1 of 1

Cooler No 1 of 1

Date Shipped 1/26/14

Shipped By JN

Turnaround Standard

Distribution: Original and yellow copies accompany sample shipment to laboratory. Pink retained by samplers

1501102

EMPIRICAL LABORATORIES
COOLER RECEIPT FORM

Cooler Received/Opened On: 01/27/15 @ 0845 Workorder# 1501102

1 Tracking # 5042 (last 4 digits, FedEx)

Courier: FedEx

2. Temperature of rep sample or temp blank when opened 3.7 °C + correction factor(-0.0) = 3.7 °C

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO (NA)

4. Were custody seals on outside of cooler? (YES) NO NA

If yes, how many and where 2 on front

5. Were the seals intact, signed, and dated correctly? (YES) NO NA

6 Were custody papers inside cooler? (YES) NO NA

I certify that I opened the cooler and answered questions 1-6 (initial/date) JTG 1/27/15

7. Were custody seals on containers. YES (NO) and Intact YES NO (NA)

Were these signed and dated correctly? YES NO (NA)

8. Packing material used? Bubblewrap (Plastic bag) Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice (Ice-pack) Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? (YES) NO NA

11. Were all container labels complete (#, date, signed, pres., etc)? (YES) NO NA

12. Did all container labels and tags agree with custody papers? (YES) NO NA

13. a. Were VOA vials received? (YES) NO NA

b. Was there observable headspace present in any VOA vial (>5mm-6mm)? JTG 1/27 (YES) ~~NO~~ NA

14. Was there a Trip Blank in this cooler (custody seals present/intact)? (YES) NO NA Comments _____
If multiple coolers, sequence # _____

I certify that I unloaded the cooler and answered questions 7-14 (initial/date) JTG 1/27/15

15. a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? (YES) NO NA

b. Did the bottle labels indicate that the correct preservatives were used? (YES) NO NA

16. Was residual chlorine present? YES NO (NA)

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial/date) JTG 1/27/15

17. Were custody papers properly filled out (ink, signed, etc)? (YES) NO NA

18 Did you sign the custody papers in the appropriate place? (YES) NO NA

19. Were correct containers used for the analysis requested? (YES) NO NA If not, PM notified? YES NO (NA)

20. Was sufficient amount of sample sent in each container? (YES) NO NA If not, PM notified? YES NO (NA)

21 Were there Non-Conformance issues at login? YES (NO) NCR# _____

I certify that I entered this project into LIMS and answered questions 17-21 (initial/date) JTG 1/27/15

I certify that I attached a label with the unique LIMS number to each container (initial/date) JTG 1/27/15

I certify that I notified the laboratory of any short holding time or RUSH parameters (initial/date) JTG 1/27/15

II. EMPIRICAL LABORATORIES
COOLER RECEIPT FORM (Continued)

LIMS Data Entry Second Check Workorder# 1501102

22. Cooler Receipt Form Issues reviewed and communicated to PM? YES...NO...NA

23. Client and Project verified to match the COC/CRF in LIMS Project Screen? YES NO NA

24. Following Items verified to items verified to match the COC/CRF in LIMS Receipt Screen:

a. Received Date/Received By YES .NO .NA

b. TAT (COC specified different?) YES .NO . NA

c. Shipping Container Temperatures (corrected temps) YES...NO .. NA

d. Condition Items (seals, intact, labels, preservation, ROI) YES NO NA

25. Following LIMS Sample Information verified against COC for each sample:

a. Name YES...NO NA

b. QC Source YES.. NO. .NA

c. Matrix YES . NO . NA

d. Sample Type YES . NO...NA

e. Sampled Date/Time (Correct Time Zone) YES...NO. NA

f. Work Analyses/Versions (if applicable) YES. NO. NA

g. Sample Issues Included in comments (Limited volume, concentration warnings, etc.)? YES .NO .NA

h. Unpreserved VOA holding time set to 7 days? YES.. NO ..NA

26. Containers consistent with tests requested? YES. . NO .NA

27 Field data entered and matching COC? YES.. NO...NA

I certify that I have verified the LIMS data entry and answered questions 23-27 above (initial/date): _____

Additional Details:

* One HCl pres vial for sample 149MW04 (1/26/15 @ 0935) had pea-size headspace present. Vial is for VOC.

III. EMPIRICAL LABORATORIES, LLC
DATA ENTRY VERIFICATION FORM – PROJECT MANAGEMENT

Workorder#: 1501102

	Verification Item	Yes	No	NA
1.	**Cooler Receipt Form Issues reviewed and communicated to client**			X
2.	**Element/ Project Screen/items verified to match the COC/CRF:**			
a.	**Client/Project**	X		
b.	Comments requiring laboratory reminder?			X
c.	Client and/or Project Memo requiring laboratory reminder?			X
3.	**Receipt Screen items verified to match the COC/CRF:**			
a.	Received Date/Received By	X		
b.	Workorder Due Date	X		
c.	Package Due Date	X		
d.	TAT	X		
e.	SDG Identifier Populated	X		
4.	**Sample Information verified against COC for each sample:**			
a.	Name	X		
b.	QC Source			X
c.	Matrix	X		
d.	Sample Type	X		
e.	Sampled Date/Time (Correct Time Zone)	X		
f.	Work Analyses/Versions	X		
g.	Sample Issues included in comments	X		
h.	Unpreserved VOA holding time set to 7 days			X
5.	**Containers consistent with tests requested**	X		
6.	**Field data entered and matching COC, if applicable**			X
	I certify that I have performed a second check of the LIMS information against the COC to confirm accuracy (initial/date):	1/28/2015		

1501102

Empirical Laboratories, LLC

Client: CB&I
Project: Radford AAP

Project Manager: Sonya Gordon
Project Number: Radford AAP

Report To:
CB&I
Eric Malarek
4696 Millennium Drive, Suite 320
Belcamp, MD 21017
Phone: (410) 273-7233
Fax: (410) 273-7103

Invoice To:
CB&I
Accounts Payable
PO Box 98519
Baton Rouge, LA 70884
Phone :(225) 932-2500
Fax: (225) 932-2661

Due to Client: 02/17/2015 16:00 *This is the projected due date to the client, at the time of receipt, and is for report delivery via upload, and/or email, and/or shipment to meet TAT as setup by project*

Received By: Joshua T. Gross
Date Received: 01/27/2015 08:45
Logged In By: Joshua T. Gross
Date Logged In: 01/27/2015 12:07

Samples Received at: **3.7°C**
Custody Seals Yes Received On Ice Yes
Containers Intact Yes
COC/Labels Agree Yes
Preservation Confirme Yes

Method	Test Code	Due	TAT	Expires	Comments
1501102-01 13MW3 [Water] Sampled 01/26/2015 09:25 Eastern 'Client Sample'					
SW8260B	VOC_8260B_REG	02/12/2015 14:00	15	02/09/2015 08:25	
SW9056A	WC_ANIONS_9056A (Regular)	02/12/2015 14:00	15	02/23/2015 08:25	
SW9056A	WC_ANIONS_9056A (Short Hold)	02/12/2015 14:00	15	01/28/2015 08:25	
SW9060A	WC_TOC_9060A_QUAD	02/12/2015 14:00	15	02/23/2015 08:25	
RSK175	VGC_RSK175_MEE	02/12/2015 14:00	15	02/09/2015 08:25	
1501102-02 49MW04 [Water] Sampled 01/26/2015 09:35 Eastern 'Client Sample'					
RSK175	VGC_RSK175_MEE	02/12/2015 14:00	15	02/09/2015 08:35	
SW8260B	VOC_8260B_REG	02/12/2015 14:00	15	02/09/2015 08:35	
SW9056A	WC_ANIONS_9056A (Regular)	02/12/2015 14:00	15	02/23/2015 08:35	
SW9056A	WC_ANIONS_9056A (Short Hold)	02/12/2015 14:00	15	01/28/2015 08:35	
SW9060A	WC_TOC_9060A_QUAD	02/12/2015 14:00	15	02/23/2015 08:35	
1501102-03 Trip Blank #14-0841 [Water] Sampled 01/26/2015 09:35 Eastern 'Trip Blank'					
SW8260B	VOC_8260B_REG	02/12/2015 14:00	15	02/09/2015 08:35	

1501102

Empirical Laboratories, LLC

Client:	**CB&I**	**Project Manager:**	**Sonya Gordon**
Project:	**Radford AAP**	**Project Number:**	**Radford AAP**

Method	Test Code	Due	TAT	Expires	Comments
1501102-04 13MW2 [Water] Sampled 01/26/2015 11:10 Eastern 'Client Sample'					
SW8260B	VOC_8260B_REG	02/12/2015 14:00	15	02/09/2015 10:10	
SW9056A	WC_ANIONS_9056A (Regular)	02/12/2015 14:00	15	02/23/2015 10:10	
SW9056A	WC_ANIONS_9056A (Short Hold)	02/12/2015 14:00	15	01/28/2015 10:10	
SW9060A	WC_TOC_9060A_QUAD	02/12/2015 14:00	15	02/23/2015 10:10	
RSK175	VGC_RSK175_MEE	02/12/2015 14:00	15	02/09/2015 10:10	
1501102-05 13MW4 [Water] Sampled 01/26/2015 11:20 Eastern 'Client Sample'					
RSK175	VGC_RSK175_MEE	02/12/2015 14:00	15	02/09/2015 10:20	
SW8260B	VOC_8260B_REG	02/12/2015 14:00	15	02/09/2015 10:20	
SW9056A	WC_ANIONS_9056A (Regular)	02/12/2015 14:00	15	02/23/2015 10:20	
SW9056A	WC_ANIONS_9056A (Short Hold)	02/12/2015 14:00	15	01/28/2015 10:20	
SW9060A	WC_TOC_9060A_QUAD	02/12/2015 14:00	15	02/23/2015 10:20	
1501102-06 49MW05 [Water] Sampled 01/26/2015 12:55 Eastern 'Client Sample'					
SW8260B	VOC_8260B_REG	02/12/2015 14:00	15	02/09/2015 11:55	
1501102-07 13MW5 [Water] Sampled 01/26/2015 13:10 Eastern 'Client Sample'					
SW8260B	VOC_8260B_REG	02/12/2015 14:00	15	02/09/2015 12:10	

Reviewed By

Date

Sample Delivery Group Assignment Form

CLIENT: CB&I
PROJECT NAME: Radford AAP
SDG #: 1501102

QC LEVEL: Level IV
Report Due: 2/17/2015
Client Sample Count: 6

Sample Type	Sampled	Received	Lab ID	Client ID	Report Matrix	RSK175	SW8260B	SW9056A	SW9060A
Client Sample	1/26/2015	1/27/2015	1501102-01	13MW3	Water	X	X	X	X
Client Sample	1/26/2015	1/27/2015	1501102-02	49MW04	Water	X	X	X	X
Trip Blank	1/26/2015	1/27/2015	1501102-03	Trip Blank #14-0841	Water		X		
Client Sample	1/26/2015	1/27/2015	1501102-04	13MW2	Water	X	X	X	X
Client Sample	1/26/2015	1/27/2015	1501102-05	13MW4	Water	X	X	X	X
Client Sample	1/26/2015	1/27/2015	1501102-06	49MW05	Water		X		
Client Sample	1/26/2015	1/27/2015	1501102-07	13MW5	Water		X		

Data for SW8260B Forms

Sample Extraction Data

Prep Method: 5030B-SW8260B

Lab Number [Field ID]	Batch	Nominal Initial/Final	Initial [mL]	Final [mL]	Dilution	% Solids	Notes	Date
1501102-01 [13MW3]	5B03424	5.00/5.00	5.00	5.00	1.00			02/03/15
1501102-02 [49MW04]	5B03424	5.00/5.00	5.00	5.00	1.00			02/03/15
1501102-03 [Trip Blank #14-0841]	5B03424	5.00/5.00	5.00	5.00	1.00			02/03/15
1501102-04 [13MW2]	5B03424	5.00/5.00	5.00	5.00	1.00			02/03/15
1501102-05 [13MW4]	5B03424	5.00/5.00	5.00	5.00	1.00			02/03/15
1501102-06 [49MW05]	5B03424	5.00/5.00	5.00	5.00	2.00			02/03/15
1501102-07 [13MW5]	5B03424	5.00/5.00	5.00	5.00	1.00			02/03/15

ANALYSIS DATA SHEET

13MW3

Laboratory: Empirical Laboratories, LLC SDG: 1501102

Client: CB&I Project: Radford AAP

Matrix: Water Laboratory ID: 1501102-01 File ID: 0110201B.D

Sampled: 01/26/15 09:25 Prepared: 02/03/15 14:52 Analyzed: 02/03/15 14:52

Solids: Preparation: 5030B Dilution: 1

Batch: 5B03424 Sequence: 5B03707 Calibration: 5035003 Instrument: MS-VOA6

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	U
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride	**4.62**	0.250	0.500	1.00	
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform	**0.470**	0.250	0.500	1.00	J
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene	**0.883**	0.250	0.500	1.00	J
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U
95-47-6	o-Xylene		0.250	0.500	1.00	U

Total Target Analytes Reported 35 Project Analytes: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	29.44	98.1	75 - 120	
Dibromofluoromethane	30.00	29.79	99.3	85 - 115	
1,2-Dichloroethane-d4	30.00	29.09	97.0	70 - 120	

ANALYSIS DATA SHEET

13MW3

Laboratory:	Empirical Laboratories, LLC			SDG:	1501102
Client:	CB&I			Project:	Radford AAP
Matrix:	Water	Laboratory ID:	1501102-01	File ID:	0110201B.D
Sampled:	01/26/15 09:25	Prepared:	02/03/15 14:52	Analyzed:	02/03/15 14:52
Solids:		Preparation:	5030B	Dilution:	1
Batch:	5B03424	Sequence:	5B03707	Calibration:	5035003
Instrument:	MS-VOA6				

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	29.20	97.3	85 - 120	

ANALYSIS DATA SHEET

49MW04

Laboratory: Empirical Laboratories, LLC SDG: 1501102

Client: CB&I Project: Radford AAP

Matrix: Water Laboratory ID: 1501102-02 File ID: 0110202B.D

Sampled: 01/26/15 09:35 Prepared: 02/03/15 15:19 Analyzed: 02/03/15 15:19

Solids: Preparation: 5030B Dilution: 1

Batch: 5B03424 Sequence: 5B03707 Calibration: 5035003 Instrument: MS-VOA6

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	U
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride	**0.662**	0.250	0.500	1.00	J
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform	**1.46**	0.250	0.500	1.00	
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U
95-47-6	o-Xylene		0.250	0.500	1.00	U

Total Target Analytes Reported 35 Project Analytes: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	29.31	97.7	75 - 120	
Dibromofluoromethane	30.00	29.92	99.7	85 - 115	
1,2-Dichloroethane-d4	30.00	28.79	96.0	70 - 120	

ANALYSIS DATA SHEET

49MW04

Laboratory:	Empirical Laboratories, LLC			SDG:	1501102
Client:	CB&I			Project:	Radford AAP
Matrix:	Water	Laboratory ID:	1501102-02	File ID:	0110202B.D
Sampled:	01/26/15 09:35	Prepared:	02/03/15 15:19	Analyzed:	02/03/15 15:19
Solids:		Preparation:	5030B	Dilution:	1
Batch:	5B03424	Sequence:	5B03707	Calibration:	5035003
Instrument:	MS-VOA6				

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	29.56	98.5	85 - 120	

ANALYSIS DATA SHEET

Trip Blank #14-0841

Laboratory: Empirical Laboratories, LLC SDG: 1501102

Client: CB&I Project: Radford AAP

Matrix: Water Laboratory ID: 1501102-03 File ID: 0110203A.D

Sampled: 01/26/15 09:35 Prepared: 02/03/15 13:02 Analyzed: 02/03/15 13:02

Solids: Preparation: 5030B Dilution: 1

Batch: 5B03424 Sequence: 5B03707 Calibration: 5035003 Instrument: MS-VOA6

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	U
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U
95-47-6	o-Xylene		0.250	0.500	1.00	U

Total Target Analytes Reported 35 Project Analytes: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	30.27	101	75 - 120	
Dibromofluoromethane	30.00	28.98	96.6	85 - 115	
1,2-Dichloroethane-d4	30.00	28.75	95.8	70 - 120	

ANALYSIS DATA SHEET

Trip Blank #14-0841

Laboratory:	Empirical Laboratories, LLC			SDG:	1501102
Client:	CB&I			Project:	Radford AAP
Matrix:	Water	Laboratory ID:	1501102-03	File ID:	0110203A.D
Sampled:	01/26/15 09:35	Prepared:	02/03/15 13:02	Analyzed:	02/03/15 13:02
Solids:		Preparation:	5030B	Dilution:	1
Batch:	5B03424	Sequence:	5B03707	Calibration:	5035003
Instrument:	MS-VOA6				

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	29.70	99.0	85 - 120	

ANALYSIS DATA SHEET

13MW2

Laboratory: Empirical Laboratories, LLC SDG: 1501102

Client: CB&I Project: Radford AAP

Matrix: Water Laboratory ID: 1501102-04 File ID: 0110204B.D

Sampled: 01/26/15 11:10 Prepared: 02/03/15 15:47 Analyzed: 02/03/15 15:47

Solids: Preparation: 5030B Dilution: 1

Batch: 5B03424 Sequence: 5B03707 Calibration: 5035003 Instrument: MS-VOA6

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	U
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U
95-47-6	o-Xylene		0.250	0.500	1.00	U

Total Target Analytes Reported 35 Project Analytes: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	29.69	99.0	75 - 120	
Dibromofluoromethane	30.00	29.80	99.3	85 - 115	
1,2-Dichloroethane-d4	30.00	29.23	97.4	70 - 120	

ANALYSIS DATA SHEET

13MW2

Laboratory:	Empirical Laboratories, LLC			SDG:	1501102
Client:	CB&I			Project:	Radford AAP
Matrix:	Water	Laboratory ID:	1501102-04	File ID:	0110204B.D
Sampled:	01/26/15 11:10	Prepared:	02/03/15 15:47	Analyzed:	02/03/15 15:47
Solids:		Preparation:	5030B	Dilution:	1
Batch:	5B03424	Sequence:	5B03707	Calibration:	5035003
Instrument:	MS-VOA6				

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	29.45	98.2	85 - 120	

ANALYSIS DATA SHEET

13MW4

Laboratory: Empirical Laboratories, LLC SDG: 1501102

Client: CB&I Project: Radford AAP

Matrix: Water Laboratory ID: 1501102-05 File ID: 0110205B.D

Sampled: 01/26/15 11:20 Prepared: 02/03/15 16:14 Analyzed: 02/03/15 16:14

Solids: Preparation: 5030B Dilution: 1

Batch: 5B03424 Sequence: 5B03707 Calibration: 5035003 Instrument: MS-VOA6

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	U
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride	**0.592**	0.250	0.500	1.00	J
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U
95-47-6	o-Xylene		0.250	0.500	1.00	U

Total Target Analytes Reported 35 Project Analytes: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	29.26	97.5	75 - 120	
Dibromofluoromethane	30.00	29.88	99.6	85 - 115	
1,2-Dichloroethane-d4	30.00	29.95	99.8	70 - 120	

ANALYSIS DATA SHEET

13MW4

Laboratory:	Empirical Laboratories, LLC			SDG:	1501102
Client:	CB&I			Project:	Radford AAP
Matrix:	Water	Laboratory ID:	1501102-05	File ID:	0110205B.D
Sampled:	01/26/15 11:20	Prepared:	02/03/15 16:14	Analyzed:	02/03/15 16:14
Solids:		Preparation:	5030B	Dilution:	1
Batch:	5B03424	Sequence:	5B03707	Calibration:	5035003
Instrument:	MS-VOA6				

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	29.45	98.2	85 - 120	

ANALYSIS DATA SHEET

49MW05

Laboratory: Empirical Laboratories, LLC SDG: 1501102

Client: CB&I Project: Radford AAP

Matrix: Water Laboratory ID: 1501102-06 File ID: 0110206B.D

Sampled: 01/26/15 12:55 Prepared: 02/03/15 16:42 Analyzed: 02/03/15 16:42

Solids: Preparation: 5030B Dilution: 2

Batch: 5B03424 Sequence: 5B03707 Calibration: 5035003 Instrument: MS-VOA6

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone	**18.6**	5.00	10.0	20.0	JD
71-43-2	Benzene		0.500	1.00	2.00	U
75-27-4	Bromodichloromethane		0.500	1.00	2.00	U
75-25-2	Bromoform		0.500	1.00	2.00	U
74-83-9	Bromomethane		1.00	2.00	4.00	U
78-93-3	2-Butanone		5.00	10.0	20.0	U
75-15-0	Carbon disulfide		0.500	1.00	2.00	U
56-23-5	Carbon tetrachloride		0.500	1.00	2.00	U
108-90-7	Chlorobenzene		0.500	1.00	2.00	U
75-00-3	Chloroethane		1.00	2.00	4.00	U
67-66-3	Chloroform		0.500	1.00	2.00	U
74-87-3	Chloromethane		0.500	1.00	2.00	U
124-48-1	Dibromochloromethane		0.500	1.00	2.00	U
75-34-3	1,1-Dichloroethane		0.500	1.00	2.00	U
107-06-2	1,2-Dichloroethane		0.500	1.00	2.00	U
75-35-4	1,1-Dichloroethene		0.500	1.00	2.00	U
156-59-2	cis-1,2-Dichloroethene		0.500	1.00	2.00	U
156-60-5	trans-1,2-Dichloroethene		0.500	1.00	2.00	U
78-87-5	1,2-Dichloropropane		0.500	1.00	2.00	U
10061-01-5	cis-1,3-Dichloropropene		0.500	1.00	2.00	U
10061-02-6	trans-1,3-Dichloropropene		0.500	1.00	2.00	U
100-41-4	Ethylbenzene		0.500	1.00	2.00	U
591-78-6	2-Hexanone		2.50	5.00	10.0	U
75-09-2	Methylene chloride		1.00	2.00	4.00	U
108-10-1	4-Methyl-2-pentanone		2.50	5.00	10.0	U
100-42-5	Styrene		0.500	1.00	2.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.500	1.00	2.00	U
127-18-4	Tetrachloroethene		0.500	1.00	2.00	U
108-88-3	Toluene		0.500	1.00	2.00	U
79-00-5	1,1,2-Trichloroethane		0.500	1.00	2.00	U
71-55-6	1,1,1-Trichloroethane		0.500	1.00	2.00	U
79-01-6	Trichloroethene		0.500	1.00	2.00	U
75-01-4	Vinyl chloride		0.500	1.00	2.00	U
108-38-3/106-42-	m,p-Xylene		1.00	2.00	4.00	U
95-47-6	o-Xylene		0.500	1.00	2.00	U

Total Target Analytes Reported 35 Project Analytes: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	29.24	97.5	75 - 120	
Dibromofluoromethane	30.00	30.49	102	85 - 115	
1,2-Dichloroethane-d4	30.00	28.40	94.7	70 - 120	

ANALYSIS DATA SHEET

49MW05

Laboratory:	Empirical Laboratories, LLC			SDG:	1501102
Client:	CB&I			Project:	Radford AAP
Matrix:	Water	Laboratory ID:	1501102-06	File ID:	0110206B.D
Sampled:	01/26/15 12:55	Prepared:	02/03/15 16:42	Analyzed:	02/03/15 16:42
Solids:		Preparation:	5030B	Dilution:	1
Batch:	5B03424	Sequence:	5B03707	Calibration:	5035003
Instrument:	MS-VOA6				

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	29.01	96.7	85 - 120	

ANALYSIS DATA SHEET

13MW5

Laboratory: Empirical Laboratories, LLC SDG: 1501102

Client: CB&I Project: Radford AAP

Matrix: Water Laboratory ID: 1501102-07 File ID: 0110207B.D

Sampled: 01/26/15 13:10 Prepared: 02/03/15 17:09 Analyzed: 02/03/15 17:09

Solids: Preparation: 5030B Dilution: 1

Batch: 5B03424 Sequence: 5B03707 Calibration: 5035003 Instrument: MS-VOA6

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	U
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene	**1.42**	0.250	0.500	1.00	
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U
95-47-6	o-Xylene		0.250	0.500	1.00	U

Total Target Analytes Reported 35 Project Analytes: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	29.74	99.1	75 - 120	
Dibromofluoromethane	30.00	29.99	100	85 - 115	
1,2-Dichloroethane-d4	30.00	29.78	99.3	70 - 120	

ANALYSIS DATA SHEET

13MW5

Laboratory:	Empirical Laboratories, LLC			SDG:	1501102
Client:	CB&I			Project:	Radford AAP
Matrix:	Water	Laboratory ID:	1501102-07	File ID:	0110207B.D
Sampled:	01/26/15 13:10	Prepared:	02/03/15 17:09	Analyzed:	02/03/15 17:09
Solids:		Preparation:	5030B	Dilution:	1
Batch:	5B03424	Sequence:	5B03707	Calibration:	5035003
Instrument:	MS-VOA6				

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	29.50	98.3	85 - 120	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501102
Client: CB&I
Project: Radford AAP
Sequence: 5B03707
Instrument: MS-VOA6
Calibration: 5035003

Surrogate Compound	Spike Level	% Recovery	Recovery Limits	RT	CCV RT	RT Diff	RT Diff Limit	Q
Calibration Check (5B03707-CCV1) ug/L				Lab File ID: 0203CCV1.D		Analyzed: 02/03/15 09:48		
Bromofluorobenzene	30.00	103	80 - 120	11.88	11.88	0.0000	+/-1.000	
Dibromofluoromethane	30.00	99.0	80 - 120	6.54	6.54	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	105	80 - 120	7.04	7.04	0.0000	+/-1.000	
Toluene-d8	30.00	99.9	80 - 120	9.27	9.27	0.0000	+/-1.000	
LCS (5B03424-BS1) ug/L				Lab File ID: 0203LCS1.D		Analyzed: 02/03/15 10:17		
Bromofluorobenzene	30.00	101	75 - 120	11.88	11.88	0.0000	+/-1.000	
Dibromofluoromethane	30.00	97.9	85 - 115	6.54	6.54	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	97.4	70 - 120	7.04	7.04	0.0000	+/-1.000	
Toluene-d8	30.00	99.2	85 - 120	9.27	9.27	0.0000	+/-1.000	
LCS Dup (5B03424-BSD1) ug/L				Lab File ID: 0203LCD1.D		Analyzed: 02/03/15 10:44		
Bromofluorobenzene	30.00	99.9	75 - 120	11.88	11.88	0.0000	+/-1.000	
Dibromofluoromethane	30.00	100	85 - 115	6.54	6.54	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	98.7	70 - 120	7.04	7.04	0.0000	+/-1.000	
Toluene-d8	30.00	100	85 - 120	9.27	9.27	0.0000	+/-1.000	
Blank (5B03424-BLK1) ug/L				Lab File ID: 0203BLK1.D		Analyzed: 02/03/15 12:34		
Bromofluorobenzene	30.00	98.9	75 - 120	11.88	11.88	0.0000	+/-1.000	
Dibromofluoromethane	30.00	97.3	85 - 115	6.54	6.54	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	97.8	70 - 120	7.04	7.04	0.0000	+/-1.000	
Toluene-d8	30.00	98.7	85 - 120	9.27	9.27	0.0000	+/-1.000	
Trip Blank #14-0841 (1501102-03) ug/L				Lab File ID: 0110203A.D		Analyzed: 02/03/15 13:02		
Bromofluorobenzene	30.00	101	75 - 120	11.89	11.88	0.0100	+/-1.000	
Dibromofluoromethane	30.00	96.6	85 - 115	6.54	6.54	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	95.8	70 - 120	7.05	7.04	0.0100	+/-1.000	
Toluene-d8	30.00	99.0	85 - 120	9.28	9.27	0.0100	+/-1.000	
13MW3 (1501102-01) ug/L				Lab File ID: 0110201B.D		Analyzed: 02/03/15 14:52		
Bromofluorobenzene	30.00	98.1	75 - 120	11.88	11.88	0.0000	+/-1.000	
Dibromofluoromethane	30.00	99.3	85 - 115	6.54	6.54	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	97.0	70 - 120	7.04	7.04	0.0000	+/-1.000	
Toluene-d8	30.00	97.3	85 - 120	9.27	9.27	0.0000	+/-1.000	
49MW04 (1501102-02) ug/L				Lab File ID: 0110202B.D		Analyzed: 02/03/15 15:19		
Bromofluorobenzene	30.00	97.7	75 - 120	11.88	11.88	0.0000	+/-1.000	
Dibromofluoromethane	30.00	99.7	85 - 115	6.54	6.54	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	96.0	70 - 120	7.04	7.04	0.0000	+/-1.000	
Toluene-d8	30.00	98.5	85 - 120	9.27	9.27	0.0000	+/-1.000	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501102
Client: CB&I
Project: Radford AAP
Sequence: 5B03707
Instrument: MS-VOA6
Calibration: 5035003

Surrogate Compound	Spike Level	% Recovery	Recovery Limits	RT	CCV RT	RT Diff	RT Diff Limit	Q
13MW2 (1501102-04) ug/L				Lab File ID: 0110204B.D		Analyzed: 02/03/15 15:47		
Bromofluorobenzene	30.00	99.0	75 - 120	11.89	11.88	0.0100	+/-1.000	
Dibromofluoromethane	30.00	99.3	85 - 115	6.54	6.54	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	97.4	70 - 120	7.05	7.04	0.0100	+/-1.000	
Toluene-d8	30.00	98.2	85 - 120	9.27	9.27	0.0000	+/-1.000	
13MW4 (1501102-05) ug/L				Lab File ID: 0110205B.D		Analyzed: 02/03/15 16:14		
Bromofluorobenzene	30.00	97.5	75 - 120	11.88	11.88	0.0000	+/-1.000	
Dibromofluoromethane	30.00	99.6	85 - 115	6.54	6.54	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	99.8	70 - 120	7.04	7.04	0.0000	+/-1.000	
Toluene-d8	30.00	98.2	85 - 120	9.27	9.27	0.0000	+/-1.000	
49MW05 (1501102-06) ug/L				Lab File ID: 0110206B.D		Analyzed: 02/03/15 16:42		
Bromofluorobenzene	30.00	97.5	75 - 120	11.88	11.88	0.0000	+/-1.000	
Dibromofluoromethane	30.00	102	85 - 115	6.54	6.54	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	94.7	70 - 120	7.04	7.04	0.0000	+/-1.000	
Toluene-d8	30.00	96.7	85 - 120	9.27	9.27	0.0000	+/-1.000	
13MW5 (1501102-07) ug/L				Lab File ID: 0110207B.D		Analyzed: 02/03/15 17:09		
Bromofluorobenzene	30.00	99.1	75 - 120	11.88	11.88	0.0000	+/-1.000	
Dibromofluoromethane	30.00	100	85 - 115	6.54	6.54	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	99.3	70 - 120	7.04	7.04	0.0000	+/-1.000	
Toluene-d8	30.00	98.3	85 - 120	9.27	9.27	0.0000	+/-1.000	

LCS / LCS DUPLICATE RECOVERY

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501102
Client: CB&I
Project: Radford AAP
Matrix: Water
Batch: 5B03424
Laboratory ID: 5B03424-BS1
Preparation: 5030B
Initial/Final: 5 mL / 5 mL

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	QC LIMITS REC.
Acetone	100.0	118	118	40 - 140
Benzene	50.00	51.3	103	80 - 120
Bromodichloromethane	50.00	55.3	111	75 - 120
Bromoform	50.00	50.5	101	70 - 130
Bromomethane	50.00	56.9	114	30 - 145
2-Butanone	100.0	104	104	30 - 150
Carbon disulfide	50.00	51.9	104	35 - 160
Carbon tetrachloride	50.00	52.6	105	65 - 140
Chlorobenzene	50.00	48.9	97.8	80 - 120
Chloroethane	50.00	45.6	91.2	60 - 135
Chloroform	50.00	50.3	101	65 - 135
Chloromethane	50.00	51.3	103	40 - 125
Dibromochloromethane	50.00	56.4	113	60 - 135
1,1-Dichloroethane	50.00	49.9	99.8	70 - 135
1,2-Dichloroethane	50.00	51.3	103	70 - 130
1,1-Dichloroethene	50.00	48.2	96.4	70 - 130
cis-1,2-Dichloroethene	50.00	47.8	95.7	70 - 125
trans-1,2-Dichloroethene	50.00	51.5	103	60 - 140
1,2-Dichloropropane	50.00	50.2	100	75 - 125
cis-1,3-Dichloropropene	50.00	54.1	108	70 - 130
trans-1,3-Dichloropropene	50.00	49.9	99.8	55 - 140
Ethylbenzene	50.00	50.2	100	75 - 125
2-Hexanone	100.0	101	101	55 - 130
Methylene chloride	50.00	49.4	98.9	55 - 140
4-Methyl-2-pentanone	100.0	94.4	94.4	60 - 135
Styrene	50.00	49.6	99.1	65 - 135
1,1,2,2-Tetrachloroethane	50.00	47.6	95.2	65 - 130
Tetrachloroethene	50.00	51.9	104	45 - 150
Toluene	50.00	50.5	101	75 - 120
1,1,2-Trichloroethane	50.00	49.1	98.1	75 - 125

LCS / LCS DUPLICATE RECOVERY

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501102
Client: CB&I
Project: Radford AAP
Matrix: Water
Batch: 5B03424
Laboratory ID: 5B03424-BS1
Preparation: 5030B
Initial/Final: 5 mL / 5 mL

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	QC LIMITS REC.
1,1,1-Trichloroethane	50.00	52.8	106	65 - 130
Trichloroethene	50.00	52.4	105	70 - 125
Vinyl chloride	50.00	56.4	113	50 - 145
m,p-Xylene	100.0	98.9	98.9	75 - 130
o-Xylene	50.00	47.6	95.2	80 - 120

ANALYTE	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Acetone	100.0	120	120	1.58	30	40 - 140
Benzene	50.00	49.4	98.8	3.70	30	80 - 120
Bromodichloromethane	50.00	54.9	110	0.632	30	75 - 120
Bromoform	50.00	51.1	102	1.15	30	70 - 130
Bromomethane	50.00	56.5	113	0.709	30	30 - 145
2-Butanone	100.0	111	111	5.87	30	30 - 150
Carbon disulfide	50.00	49.9	99.8	3.84	30	35 - 160
Carbon tetrachloride	50.00	51.4	103	2.30	30	65 - 140
Chlorobenzene	50.00	48.2	96.4	1.48	30	80 - 120
Chloroethane	50.00	45.1	90.2	1.05	30	60 - 135
Chloroform	50.00	49.2	98.5	2.18	30	65 - 135
Chloromethane	50.00	51.0	102	0.543	30	40 - 125
Dibromochloromethane	50.00	57.2	114	1.52	30	60 - 135
1,1-Dichloroethane	50.00	49.3	98.6	1.21	30	70 - 135
1,2-Dichloroethane	50.00	52.5	105	2.20	30	70 - 130
1,1-Dichloroethene	50.00	47.2	94.4	2.13	30	70 - 130
cis-1,2-Dichloroethene	50.00	47.3	94.6	1.16	30	70 - 125
trans-1,2-Dichloroethene	50.00	50.2	100	2.56	30	60 - 140
1,2-Dichloropropane	50.00	51.1	102	1.70	30	75 - 125
cis-1,3-Dichloropropene	50.00	53.8	108	0.532	30	70 - 130
trans-1,3-Dichloropropene	50.00	50.1	100	0.391	30	55 - 140
Ethylbenzene	50.00	50.1	100	0.286	30	75 - 125

LCS / LCS DUPLICATE RECOVERY

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501102
Client: CB&I
Project: Radford AAP
Matrix: Water
Batch: 5B03424
Laboratory ID: 5B03424-BSD1
Preparation: 5030B
Initial/Final: 5 mL / 5 mL

ANALYTE	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
2-Hexanone	100.0	107	107	6.16	30	55 - 130
Methylene chloride	50.00	49.1	98.3	0.593	30	55 - 140
4-Methyl-2-pentanone	100.0	99.7	99.7	5.45	30	60 - 135
Styrene	50.00	49.8	99.7	0.544	30	65 - 135
1,1,2,2-Tetrachloroethane	50.00	47.8	95.7	0.523	30	65 - 130
Tetrachloroethene	50.00	51.4	103	1.05	30	45 - 150
Toluene	50.00	49.5	99.1	1.81	30	75 - 120
1,1,2-Trichloroethane	50.00	49.8	99.7	1.57	30	75 - 125
1,1,1-Trichloroethane	50.00	52.3	105	0.929	30	65 - 130
Trichloroethene	50.00	51.4	103	1.86	30	70 - 125
Vinyl chloride	50.00	51.8	104	8.59	30	50 - 145
m,p-Xylene	100.0	98.7	98.7	0.200	30	75 - 130
o-Xylene	50.00	48.0	96.1	0.924	30	80 - 120

PREPARATION BATCH SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC SDG: 1501102

Client: CB&I Project: Radford AAP

Batch: 5B03424 Batch Matrix: Water Preparation: 5030B

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
13MW3	1501102-01	02/03/15 14:52	5.00	5.00
49MW04	1501102-02	02/03/15 15:19	5.00	5.00
Trip Blank #14-0841	1501102-03	02/03/15 13:02	5.00	5.00
13MW2	1501102-04	02/03/15 15:47	5.00	5.00
13MW4	1501102-05	02/03/15 16:14	5.00	5.00
49MW05	1501102-06	02/03/15 16:42	5.00	5.00
13MW5	1501102-07	02/03/15 17:09	5.00	5.00
Blank	5B03424-BLK1	02/03/15 12:34	5.00	5.00
LCS	5B03424-BS1	02/03/15 10:17	5.00	5.00
LCS Dup	5B03424-BSD1	02/03/15 10:44	5.00	5.00

ANALYSIS DATA SHEET

Blank

Laboratory: Empirical Laboratories, LLC SDG: 1501102

Client: CB&I Project: Radford AAP

Matrix: Laboratory ID: 5B03424-BLK1 File ID: 0203BLK1.D

Sampled: Prepared: Analyzed: 02/03/15 12:34

Solids: Preparation: 5030B Dilution:

Batch: 5B03424 Sequence: 5B03707 Calibration: 5035003 Instrument: MS-VOA6

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	U
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U
95-47-6	o-Xylene		0.250	0.500	1.00	U

Total Target Analytes Reported: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	29.66	98.9	75 - 120	
Dibromofluoromethane	30.00	29.20	97.3	85 - 115	
1,2-Dichloroethane-d4	30.00	29.35	97.8	70 - 120	

ANALYSIS DATA SHEET

Blank

Laboratory: Empirical Laboratories, LLC SDG: 1501102

Client: CB&I Project: Radford AAP

Matrix: Laboratory ID: 5B03424-BLK1 File ID: 0203BLK1.D

Sampled: Prepared: Analyzed: 02/03/15 12:34

Solids: Preparation: 5030B Dilution:

Batch: 5B03424 Sequence: 5B03707 Calibration: 5035003 Instrument: MS-VOA6

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	29.60	98.7	85 - 120	

ANALYSIS DATA SHEET

LCS

Laboratory: Empirical Laboratories, LLC SDG: 1501102

Client: CB&I Project: Radford AAP

Matrix: Laboratory ID: 5B03424-BS1 File ID: 0203LCS1.D

Sampled: Prepared: Analyzed: 02/03/15 10:17

Solids: Preparation: 5030B Dilution:

Batch: 5B03424 Sequence: 5B03707 Calibration: 5035003 Instrument: MS-VOA6

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone	**118**	2.50	5.00	10.0	
71-43-2	Benzene	**51.3**	0.250	0.500	1.00	
75-27-4	Bromodichloromethane	**55.3**	0.250	0.500	1.00	
75-25-2	Bromoform	**50.5**	0.250	0.500	1.00	
74-83-9	Bromomethane	**56.9**	0.500	1.00	2.00	
78-93-3	2-Butanone	**104**	2.50	5.00	10.0	
75-15-0	Carbon disulfide	**51.9**	0.250	0.500	1.00	
56-23-5	Carbon tetrachloride	**52.6**	0.250	0.500	1.00	
108-90-7	Chlorobenzene	**48.9**	0.250	0.500	1.00	
75-00-3	Chloroethane	**45.6**	0.500	1.00	2.00	
67-66-3	Chloroform	**50.3**	0.250	0.500	1.00	
74-87-3	Chloromethane	**51.3**	0.250	0.500	1.00	
124-48-1	Dibromochloromethane	**56.4**	0.250	0.500	1.00	
75-34-3	1,1-Dichloroethane	**49.9**	0.250	0.500	1.00	
107-06-2	1,2-Dichloroethane	**51.3**	0.250	0.500	1.00	
75-35-4	1,1-Dichloroethene	**48.2**	0.250	0.500	1.00	
156-59-2	cis-1,2-Dichloroethene	**47.8**	0.250	0.500	1.00	
156-60-5	trans-1,2-Dichloroethene	**51.5**	0.250	0.500	1.00	
78-87-5	1,2-Dichloropropane	**50.2**	0.250	0.500	1.00	
10061-01-5	cis-1,3-Dichloropropene	**54.1**	0.250	0.500	1.00	
10061-02-6	trans-1,3-Dichloropropene	**49.9**	0.250	0.500	1.00	
100-41-4	Ethylbenzene	**50.2**	0.250	0.500	1.00	
591-78-6	2-Hexanone	**101**	1.25	2.50	5.00	
75-09-2	Methylene chloride	**49.4**	0.500	1.00	2.00	
108-10-1	4-Methyl-2-pentanone	**94.4**	1.25	2.50	5.00	
100-42-5	Styrene	**49.6**	0.250	0.500	1.00	
79-34-5	1,1,2,2-Tetrachloroethane	**47.6**	0.250	0.500	1.00	
127-18-4	Tetrachloroethene	**51.9**	0.250	0.500	1.00	
108-88-3	Toluene	**50.5**	0.250	0.500	1.00	
79-00-5	1,1,2-Trichloroethane	**49.1**	0.250	0.500	1.00	
71-55-6	1,1,1-Trichloroethane	**52.8**	0.250	0.500	1.00	
79-01-6	Trichloroethene	**52.4**	0.250	0.500	1.00	
75-01-4	Vinyl chloride	**56.4**	0.250	0.500	1.00	
108-38-3/106-42-	m,p-Xylene	**98.9**	0.500	1.00	2.00	
95-47-6	o-Xylene	**47.6**	0.250	0.500	1.00	

Total Target Analytes Reported: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	30.17	101	75 - 120	
Dibromofluoromethane	30.00	29.38	97.9	85 - 115	
1,2-Dichloroethane-d4	30.00	29.21	97.4	70 - 120	

ANALYSIS DATA SHEET

LCS

Laboratory: Empirical Laboratories, LLC SDG: 1501102

Client: CB&I Project: Radford AAP

Matrix: Laboratory ID: 5B03424-BS1 File ID: 0203LCS1.D

Sampled: Prepared: Analyzed: 02/03/15 10:17

Solids: Preparation: 5030B Dilution:

Batch: 5B03424 Sequence: 5B03707 Calibration: 5035003 Instrument: MS-VOA6

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	29.75	99.2	85 - 120	

ANALYSIS DATA SHEET

LCS Dup

Laboratory: Empirical Laboratories, LLC SDG: 1501102

Client: CB&I Project: Radford AAP

Matrix: Laboratory ID: 5B03424-BSD1 File ID: 0203LCD1.D

Sampled: Prepared: Analyzed: 02/03/15 10:44

Solids: Preparation: 5030B Dilution:

Batch: 5B03424 Sequence: 5B03707 Calibration: 5035003 Instrument: MS-VOA6

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone	**120**	2.50	5.00	10.0	
71-43-2	Benzene	**49.4**	0.250	0.500	1.00	
75-27-4	Bromodichloromethane	**54.9**	0.250	0.500	1.00	
75-25-2	Bromoform	**51.1**	0.250	0.500	1.00	
74-83-9	Bromomethane	**56.5**	0.500	1.00	2.00	
78-93-3	2-Butanone	**111**	2.50	5.00	10.0	
75-15-0	Carbon disulfide	**49.9**	0.250	0.500	1.00	
56-23-5	Carbon tetrachloride	**51.4**	0.250	0.500	1.00	
108-90-7	Chlorobenzene	**48.2**	0.250	0.500	1.00	
75-00-3	Chloroethane	**45.1**	0.500	1.00	2.00	
67-66-3	Chloroform	**49.2**	0.250	0.500	1.00	
74-87-3	Chloromethane	**51.0**	0.250	0.500	1.00	
124-48-1	Dibromochloromethane	**57.2**	0.250	0.500	1.00	
75-34-3	1,1-Dichloroethane	**49.3**	0.250	0.500	1.00	
107-06-2	1,2-Dichloroethane	**52.5**	0.250	0.500	1.00	
75-35-4	1,1-Dichloroethene	**47.2**	0.250	0.500	1.00	
156-59-2	cis-1,2-Dichloroethene	**47.3**	0.250	0.500	1.00	
156-60-5	trans-1,2-Dichloroethene	**50.2**	0.250	0.500	1.00	
78-87-5	1,2-Dichloropropane	**51.1**	0.250	0.500	1.00	
10061-01-5	cis-1,3-Dichloropropene	**53.8**	0.250	0.500	1.00	
10061-02-6	trans-1,3-Dichloropropene	**50.1**	0.250	0.500	1.00	
100-41-4	Ethylbenzene	**50.1**	0.250	0.500	1.00	
591-78-6	2-Hexanone	**107**	1.25	2.50	5.00	
75-09-2	Methylene chloride	**49.1**	0.500	1.00	2.00	
108-10-1	4-Methyl-2-pentanone	**99.7**	1.25	2.50	5.00	
100-42-5	Styrene	**49.8**	0.250	0.500	1.00	
79-34-5	1,1,2,2-Tetrachloroethane	**47.8**	0.250	0.500	1.00	
127-18-4	Tetrachloroethene	**51.4**	0.250	0.500	1.00	
108-88-3	Toluene	**49.5**	0.250	0.500	1.00	
79-00-5	1,1,2-Trichloroethane	**49.8**	0.250	0.500	1.00	
71-55-6	1,1,1-Trichloroethane	**52.3**	0.250	0.500	1.00	
79-01-6	Trichloroethene	**51.4**	0.250	0.500	1.00	
75-01-4	Vinyl chloride	**51.8**	0.250	0.500	1.00	
108-38-3/106-42-	m,p-Xylene	**98.7**	0.500	1.00	2.00	
95-47-6	o-Xylene	**48.0**	0.250	0.500	1.00	

Total Target Analytes Reported: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	29.98	99.9	75 - 120	
Dibromofluoromethane	30.00	29.99	100	85 - 115	
1,2-Dichloroethane-d4	30.00	29.60	98.7	70 - 120	

ANALYSIS DATA SHEET

LCS Dup

Laboratory: Empirical Laboratories, LLC SDG: 1501102

Client: CB&I Project: Radford AAP

Matrix: Laboratory ID: 5B03424-BSD1 File ID: 0203LCD1.D

Sampled: Prepared: Analyzed: 02/03/15 10:44

Solids: Preparation: 5030B Dilution:

Batch: 5B03424 Sequence: 5B03707 Calibration: 5035003 Instrument: MS-VOA6

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	30.00	100	85 - 120	

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501102
Client:	CB&I	Project:	Radford AAP
Lab File ID:	0202TUN1.D	Injection Date:	02/02/15
Instrument ID:	MS-VOA6	Injection Time:	09:15
Sequence:	5B03418	Lab Sample ID:	5B03418-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	22	PASS
75	30 - 60% of 95	49.7	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.52	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	94.5	PASS
175	5 - 9% of 174	7.12	PASS
176	95 - 101% of 174	96.3	PASS
177	5 - 9% of 176	7	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501102
Client:	CB&I	Project:	Radford AAP
Lab File ID:	0203TUN1.D	Injection Date:	02/03/15
Instrument ID:	MS-VOA6	Injection Time:	09:19
Sequence:	5B03707	Lab Sample ID:	5B03707-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	23.3	PASS
75	30 - 60% of 95	48.5	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.23	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	92	PASS
175	5 - 9% of 174	7.67	PASS
176	95 - 101% of 174	98.7	PASS
177	5 - 9% of 176	6.08	PASS

ANALYSIS SEQUENCE SUMMARY

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501102
Client:	CB&I	Project:	Radford AAP
Sequence:	5B03418	Instrument:	MS-VOA6
Calibration:	5035003		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	5B03418-TUN1	0202TUN1.D	02/02/15 09:15
Cal Standard	5B03418-CAL1	0202CAL1.D	02/02/15 10:39
Cal Standard	5B03418-CAL2	0202CAL2.D	02/02/15 11:07
Cal Standard	5B03418-CAL3	0202CAL3.D	02/02/15 11:34
Cal Standard	5B03418-CAL4	0202CAL4.D	02/02/15 12:02
Cal Standard	5B03418-CAL5	0202CAL5.D	02/02/15 12:29
Cal Standard	5B03418-CAL6	0202CAL6.D	02/02/15 12:57
Cal Standard	5B03418-CAL7	0202CAL7.D	02/02/15 13:24
Cal Standard	5B03418-CAL8	0202CAL8.D	02/02/15 13:52
Cal Standard	5B03418-CAL9	0202CAL9.D	02/02/15 14:19
Initial Cal Check	5B03418-ICV1	0202ICV1.D	02/02/15 15:14

ANALYSIS SEQUENCE SUMMARY

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501102
Client:	CB&I	Project:	Radford AAP
Sequence:	5B03707	Instrument:	MS-VOA6
Calibration:	5035003		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	5B03707-TUN1	0203TUN1.D	02/03/15 09:19
Calibration Check	5B03707-CCV1	0203CCV1.D	02/03/15 09:48
LCS	5B03424-BS1	0203LCS1.D	02/03/15 10:17
LCS Dup	5B03424-BSD1	0203LCD1.D	02/03/15 10:44
Blank	5B03424-BLK1	0203BLK1.D	02/03/15 12:34
Trip Blank #14-0841	1501102-03	0110203A.D	02/03/15 13:02
13MW3	1501102-01	0110201B.D	02/03/15 14:52
49MW04	1501102-02	0110202B.D	02/03/15 15:19
13MW2	1501102-04	0110204B.D	02/03/15 15:47
13MW4	1501102-05	0110205B.D	02/03/15 16:14
49MW05	1501102-06	0110206B.D	02/03/15 16:42
13MW5	1501102-07	0110207B.D	02/03/15 17:09

INTERNAL STANDARD AREA AND RT SUMMARY
SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501102
Client: CB&I
Project: Radford AAP
Sequence: 5B03707
Instrument: MS-VOA6
Calibration: 5035003

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (5B03707-CCV1)			Lab File ID: 0203CCV1.D				Analyzed: 02/03/15 09:48		
Fluorobenzene	817716	7.57	801093	7.58	102	50 - 200	-0.0100	+/-0.50	
Chlorobenzene-d5	356399	10.69	340436	10.7	105	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	292900	13.07	293475	13.09	100	50 - 200	-0.0200	+/-0.50	
LCS (5B03424-BS1)			Lab File ID: 0203LCS1.D				Analyzed: 02/03/15 10:17		
Fluorobenzene	832558	7.57	801093	7.57	104	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	356695	10.69	340436	10.69	105	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	310565	13.07	293475	13.07	106	50 - 200	0.0000	+/-0.50	
LCS Dup (5B03424-BSD1)			Lab File ID: 0203LCD1.D				Analyzed: 02/03/15 10:44		
Fluorobenzene	814956	7.57	801093	7.57	102	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	349137	10.7	340436	10.69	103	50 - 200	0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	309772	13.07	293475	13.07	106	50 - 200	0.0000	+/-0.50	
Blank (5B03424-BLK1)			Lab File ID: 0203BLK1.D				Analyzed: 02/03/15 12:34		
Fluorobenzene	879806	7.58	801093	7.57	110	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	380281	10.69	340436	10.69	112	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	362521	13.08	293475	13.07	124	50 - 200	0.0100	+/-0.50	
Trip Blank #14-0841 (1501102-03)			Lab File ID: 0110203A.D				Analyzed: 02/03/15 13:02		
Fluorobenzene	883389	7.58	801093	7.57	110	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	372895	10.69	340436	10.69	110	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	360211	13.08	293475	13.07	123	50 - 200	0.0100	+/-0.50	
13MW3 (1501102-01)			Lab File ID: 0110201B.D				Analyzed: 02/03/15 14:52		
Fluorobenzene	812690	7.58	801093	7.57	101	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	356172	10.69	340436	10.69	105	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	346971	13.07	293475	13.07	118	50 - 200	0.0000	+/-0.50	
49MW04 (1501102-02)			Lab File ID: 0110202B.D				Analyzed: 02/03/15 15:19		
Fluorobenzene	827281	7.57	801093	7.57	103	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	355717	10.69	340436	10.69	104	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	342966	13.08	293475	13.07	117	50 - 200	0.0100	+/-0.50	
13MW2 (1501102-04)			Lab File ID: 0110204B.D				Analyzed: 02/03/15 15:47		
Fluorobenzene	806869	7.58	801093	7.57	101	50 - 200	0.0100	+/-0.50	
Chlorobenzene-d5	348587	10.69	340436	10.69	102	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	333742	13.08	293475	13.07	114	50 - 200	0.0100	+/-0.50	
13MW4 (1501102-05)			Lab File ID: 0110205B.D				Analyzed: 02/03/15 16:14		
Fluorobenzene	801246	7.57	801093	7.57	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	348619	10.7	340436	10.69	102	50 - 200	0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	334035	13.07	293475	13.07	114	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501102
Client: CB&I
Project: Radford AAP
Sequence: 5B03707
Instrument: MS-VOA6
Calibration: 5035003

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
49MW05 (1501102-06)			Lab File ID: 0110206B.D				Analyzed: 02/03/15 16:42		
Fluorobenzene	785551	7.57	801093	7.57	98	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	342026	10.69	340436	10.69	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	324917	13.07	293475	13.07	111	50 - 200	0.0000	+/-0.50	
13MW5 (1501102-07)			Lab File ID: 0110207B.D				Analyzed: 02/03/15 17:09		
Fluorobenzene	768440	7.57	801093	7.57	96	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	330903	10.69	340436	10.69	97	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	319327	13.07	293475	13.07	109	50 - 200	0.0000	+/-0.50	

INITIAL CALIBRATION DATA

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501102
Client: CB&I
Project: Radford AAP
Calibration: 5035003
Instrument: MS-VOA6
Matrix: Water
Calibration Dates: 2/2/15 10:39 2/2/15 14:19

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Acetone	1	9.236574E-02	2	9.762586E-02	4	6.827417E-02	10	7.711333E-02	20	7.632549E-02	100	7.933696E-02
Acetonitrile	5	2.710705E-02	10	1.666888E-02	20	1.974842E-02	50	2.129701E-02	100	1.972229E-02	500	2.072974E-02
Acrolein	2.5	1.846005E-02	5	0.0163397	10	1.612724E-02	25	1.660637E-02	50	0.0148139	250	1.597633E-02
Acrylonitrile	2.5	0.0877147	5	8.215069E-02	10	9.575873E-02	25	9.985356E-02	50	0.1131606	250	0.1133263
Benzene	0.5	1.02526	1	0.9283434	2	1.011048	5	1.047478	10	1.019079	50	1.067792
Allyl chloride	0.5	0.1312773	1	0.1091973	2	0.1313703	5	0.1263285	10	0.134224	50	0.1342678
Bromobenzene	0.5	0.7118706	1	0.7133766	2	0.7711292	5	0.8448501	10	0.8645843	50	0.9159169
Bromochloromethane	0.5	0.1773291	1	0.1581765	2	0.1850707	5	0.200995	10	0.2048907	50	0.1983443
Tert-Amyl Methyl Ether	0.5	0.6526524	1	0.5827293	2	0.683359	5	0.7263112	10	0.7882942	50	0.8038435
Bromodichloromethane	0.5	0.3769963	1	0.3602447	2	0.380463	5	0.4319727	10	0.4202187	50	0.4614388
Bromoform	0.5	0.5648978	1	0.4300804	2	0.546589	5	0.592306	10	0.5904716	50	0.6994248
Bromomethane	0.5	7.323752E-02	1	9.716034E-02	2	0.1145504	5	0.1108196	10	0.12476	50	0.1342797
Bromofluorobenzene	30	0.9440099	35	0.9384314	40	0.9263851	50	0.935492	60	0.9183158	70	0.9339239
n-Butylbenzene	0.5	1.515942	1	1.392004	2	1.544273	5	1.656332	10	1.67539	50	1.801498
2-Butanone	1	0.1100856	2	0.1015828	4	0.1203199	10	0.1555208	20	0.1654211	100	0.1730353
sec-Butylbenzene	0.5	2.038833	1	1.752086	2	2.004466	5	2.232618	10	2.211731	50	2.345845
tert-Butylbenzene	0.5	1.720235	1	1.437628	2	1.573864	5	1.735671	10	1.797479	50	1.846415
Carbon disulfide	0.5	0.9940126	1	0.733657	2	0.9563013	5	1.062849	10	1.048366	50	1.06902
Carbon tetrachloride	0.5	0.4034614	1	0.3403937	2	0.3718731	5	0.4318415	10	0.4400483	50	0.5059794
Chlorobenzene	0.5	1.80396	1	1.474974	2	1.636913	5	1.747111	10	1.682238	50	1.671364
Chloroethane	0.5	9.682026E-02	1	8.086719E-02	2	9.284396E-02	5	7.917359E-02	10	9.067532E-02	50	9.066442E-02
Chloroform	0.5	0.6494425	1	0.5666024	2	0.5865715	5	0.6169066	10	0.6094375	50	0.6235727
2-Chloroethyl vinyl ether	1	0.1535171	2	0.1359646	4	0.1601494	10	0.1716647	20	0.1762465	100	0.1770533
Chloromethane	0.5	0.1992742	1	0.1589745	2	0.1361368	5	0.1625643	10	0.1676538	50	0.1695417
1-Chlorohexane	0.5	0.8275631	1	0.6614641	2	0.7332477	5	0.7250196	10	0.7050107	50	0.6798879
2-Chlorotoluene	0.5	1.794754	1	1.566322	2	1.744485	5	1.903654	10	1.869332	50	1.99626
Chloroprene	0.5	0.5815111	1	0.3839529	2	0.5109247	5	0.540556	10	0.5190878	50	0.5504363
4-Chlorotoluene	0.5	2.042306	1	1.970718	2	2.115569	5	2.259053	10	2.220672	50	2.394587
Cyclohexane	0.5	0.4218036	1	0.3582829	2	0.3857096	5	0.387482	10	0.3760332	50	0.3896933
Dibromochloromethane	0.5	0.759538	1	0.6698114	2	0.7599018	5	0.8426347	10	0.8722164	50	0.9720605
1,2-Dibromo-3-chloropropane	0.5	0.1299333	1	0.1222347	2	0.1313337	5	0.1599057	10	0.1658759	50	0.2014918

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Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
1,2-Dibromoethane (EDB)	0.5	0.6699031	1	0.6687973	2	0.6876987	5	0.7494407	10	0.7771721	50	0.7984551
Dibromomethane	0.5	0.2725772	1	0.2256434	2	0.256654	5	0.2665371	10	0.2679398	50	0.281524
1,2-Dichlorobenzene	0.5	1.24755	1	1.139358	2	1.22448	5	1.371033	10	1.346613	50	1.415898
1,3-Dichlorobenzene	0.5	1.33454	1	1.269034	2	1.327608	5	1.399722	10	1.415885	50	1.443999
trans-1,4-Dichloro-2-butene	0.5	0.1938738	1	0.1519145	2	0.2205685	5	0.2422493	10	0.2559528	50	0.3157379
cis-1,4-Dichloro-2-butene	0.5	0.2316066	1	0.180286	2	0.2241782	5	0.2790837	10	0.2810966	50	0.3578892
1,4-Dichlorobenzene	0.5	1.370536	1	1.234285	2	1.357913	5	1.4634	10	1.399438	50	1.464336
Dichlorodifluoromethane	0.5	0.3127334	1	0.2475893	2	0.287019	5	0.3110899	10	0.3798832	50	0.4315387
1,1-Dichloroethane	0.5	0.47683	1	0.4733657	2	0.518726	5	0.5191803	10	0.5252063	50	0.5682375
1,2-Dichloroethane	0.5	0.4521336	1	0.4299727	2	0.4779878	5	0.520257	10	0.521689	50	0.5591358
1,1-Dichloroethene	0.5	0.2993698	1	0.220955	2	0.2596202	5	0.2599663	10	0.2712782	50	0.2886304
cis-1,2-Dichloroethene	0.5	0.3715592	1	0.3003259	2	0.3205731	5	0.3437712	10	0.3471546	50	0.3195401
trans-1,2-Dichloroethene	0.5	0.2729702	1	0.2511804	2	0.2728566	5	0.2988456	10	0.3070266	50	0.2902167
1,2-Dichloroethene (total)	1	0.3222647	2	0.2757531	4	0.2967149	10	0.3213084	20	0.3270906	100	0.3048784
1,2-Dichloropropane	0.5	0.3126679	1	0.2423688	2	0.2832984	5	0.2814041	10	0.2818907	50	0.2993818
1,3-Dichloropropane	0.5	0.9751792	1	0.8774015	2	0.9438268	5	1.067013	10	0.9946146	50	0.9956594
2,2-Dichloropropane	0.5	0.4408663	1	0.3539935	2	0.424116	5	0.4231725	10	0.4187982	50	0.4465619
1,1-Dichloropropene	0.5	0.3898358	1	0.3476425	2	0.3979345	5	0.4080432	10	0.4208413	50	0.4223273
cis-1,3-Dichloropropene	0.5	0.4561951	1	0.368225	2	0.4084963	5	0.4526444	10	0.46868	50	0.4856487
trans-1,3-Dichloropropene	0.5	0.9100455	1	0.822715	2	0.8747595	5	1.01451	10	1.040612	50	1.064785
Diisopropyl Ether	0.5	1.252899	1	0.9950456	2	1.097891	5	1.199641	10	1.160982	50	1.133204
1,4-Dioxane	10	2.220708E-03	20	1.758994E-03	40	2.793892E-03	100	2.908185E-03	200	2.783556E-03	1000	3.100482E-03
Ethylbenzene	0.5	2.703657	1	2.345198	2	2.59883	5	2.709883	10	2.7258	50	2.80646
Ethyl tert-Butyl Ether	0.5	0.9655168	1	0.7973332	2	0.9030639	5	0.9581792	10	0.9375139	50	0.9499394
Ethyl Methacrylate	0.5	0.58179	1	0.5397653	2	0.5752531	5	0.6887377	10	0.6996557	50	0.7568953
Hexachlorobutadiene	0.5	0.5475199	1	0.3864907	2	0.3711679	5	0.3879815	10	0.4119076	50	0.4420974
Hexane	0.5	0.2222673	1	0.1864401	2	0.1983243	5	0.2123144	10	0.1990656	50	0.208551
2-Hexanone	1	0.4053355	2	0.3863937	4	0.434847	10	0.4776519	20	0.4654165	100	0.4825045
Iodomethane	0.5	0.2859408	1	0.3179823	2	0.3771882	5	0.500945	10	0.5634558	50	0.6566268
Isobutyl alcohol	10	4.143357E-03	20	3.498038E-03	40	3.197673E-03	100	3.598392E-03	200	3.388249E-03	1000	5.042662E-03
Isopropylbenzene	0.5	2.196588	1	1.993988	2	2.29844	5	2.405652	10	2.350755	50	2.458237

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Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
p-Isopropyltoluene	0.5	1.704448	1	1.459049	2	1.573067	5	1.76885	10	1.766893	50	1.873712
Methacrylonitrile	5	0.1944463	10	0.1698045	20	0.1924347	50	0.2059673	100	0.2016172	500	0.1820924
Methylene chloride	0.5	0.3617986	1	0.3013567	2	0.3241051	5	0.3557325	10	0.3542642	50	0.3351423
Methyl Acetate	0.5	0.2985837	1	0.2026003	2	0.2572026	5	0.2192648	10	0.2398806	50	0.2250598
Methylcyclohexane	0.5	0.2849581	1	0.2600585	2	0.2946317	5	0.2996463	10	0.2961421	50	0.2968016
Naphthalene	0.5	1.463842	1	1.331582	2	1.507253	5	1.756863	10	1.856909	50	2.09217
Methyl Methacrylate	0.5	0.3169914	1	0.2082197	2	0.2532934	5	0.250117	10	0.2827637	50	0.3001041
4-Methyl-2-pentanone	1	0.3029072	2	0.2291348	4	0.2503872	10	0.2971236	20	0.299679	100	0.3125504
Methyl t-Butyl Ether	0.5	0.7327682	1	0.6129215	2	0.6727801	5	0.7919913	10	0.765892	50	0.7789419
n-Propylbenzene	0.5	2.577827	1	2.395474	2	2.590368	5	2.83942	10	2.818779	50	3.10245
Propionitrile	5	3.212494E-02	10	2.623529E-02	20	3.468746E-02	50	3.873232E-02	100	3.824665E-02	500	3.685232E-02
Styrene	0.5	1.558339	1	1.481059	2	1.573393	5	1.789625	10	1.762506	50	1.712083
1,1,2,2-Tetrachloroethane	0.5	0.7644438	1	0.6982506	2	0.7563967	5	0.8138218	10	0.8302718	50	0.8734846
1,1,1,2-Tetrachloroethane	0.5	0.6718814	1	0.5287656	2	0.5802784	5	0.6731837	10	0.6717398	50	0.7380418
tert-Butyl alcohol	2.5	1.490953E-02	5	1.316087E-02	10	1.365826E-02	25	1.711988E-02	50	0.017101	250	2.204217E-02
Tetrachloroethene	0.5	0.7548203	1	0.6258906	2	0.7308758	5	0.767842	10	0.7582062	50	0.8043942
Toluene	0.5	1.377395	1	1.357098	2	1.390353	5	1.482075	10	1.422153	50	1.35098
1,2,3-Trichlorobenzene	0.5	0.7240271	1	0.6484573	2	0.7064068	5	0.7493404	10	0.7740962	50	0.8536525
1,2,4-Trichlorobenzene	0.5	0.9103228	1	0.7266221	2	0.7821682	5	0.8432108	10	0.864453	50	0.9881869
1,1,2-Trichloroethane	0.5	0.5230479	1	0.4307045	2	0.4918336	5	0.5463435	10	0.5175913	50	0.5236015
1,1,1-Trichloroethane	0.5	0.4541643	1	0.4388508	2	0.4657115	5	0.5044236	10	0.4993047	50	0.5553834
Tetrahydrofuran	0.5	~~1.578734E-02~~	1	3.059121E-02	2	1.940893E-02	5	2.655225E-02	10	0.0266208	50	2.737064E-02
Trichloroethene	0.5	0.3198082	1	0.2715302	2	0.3080053	5	0.3452206	10	0.3318441	50	0.3523398
Trichlorofluoromethane	0.5	0.4116499	1	0.3634701	2	0.4635511	5	0.4965001	10	0.5171413	50	0.5253012
1,2,3-Trichloropropane	0.5	0.230555	1	0.2086822	2	0.2041869	5	0.255161	10	0.2544571	50	0.251836
1,3,5-Trimethylbenzene	0.5	1.829803	1	1.686594	2	1.890551	5	2.068665	10	2.012531	50	2.180349
1,2,4-Trimethylbenzene	0.5	2.241548	1	1.753394	2	2.074099	5	2.162348	10	2.266437	50	2.316508
1,1,2-Trichloro-1,2,2-trifluoroethan	0.5	0.3323857	1	0.2460597	2	0.2730452	5	0.3020965	10	0.3118856	50	0.3291558
Vinyl chloride	0.5	0.1367799	1	0.1040101	2	0.1120986	5	0.1085626	10	0.1090344	50	0.1260533
m,p-Xylene	1	2.027058	2	1.814989	4	1.935494	10	2.11931	20	2.030182	100	2.055715
o-Xylene	0.5	2.243764	1	1.883367	2	2.02615	5	2.197625	10	2.101331	50	2.063283

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Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Vinyl acetate	1	0.5940558	2	0.467314	4	0.5001486	10	0.6268525	20	0.6509055	100	0.7020031
Xylenes (total)	1.5	2.099293	3	1.837782	6	1.965713	15	2.145415	30	2.053898	150	2.058238
Dibromofluoromethane	30	0.3927313	35	0.396407	40	0.4005612	50	0.4164444	60	0.4192139	70	0.414339
1,2-Dichloroethane-d4	30	7.061394E-02	35	6.754387E-02	40	7.064885E-02	50	7.369749E-02	60	7.264068E-02	70	7.306453E-02
Toluene-d8	30	2.17058	35	2.145625	40	2.169159	50	2.176417	60	2.138711	70	2.163127
tert-Amyl alcohol	2.5	~~5.830178E-03~~	5	8.199774E-03	10	7.485812E-03	25	1.201926E-02	50	1.388647E-02	250	1.711781E-02
tert-Amyl ethyl ether	0.5	0.782554	1	0.6177762	2	0.6798269	5	0.779326	10	0.7749051	50	0.8177437
1,3,5-Trichlorobenzene	0.5	0.991472	1	0.8195041	2	0.9222323	5	0.9173234	10	0.9520366	50	1.029788
Diethyl ether	0.5	9.439648E-02	1	8.931303E-02	2	0.0892948	5	0.1085626	10	0.1069376	50	0.1109003
Cyclohexanone (outside certificatio	1.25	4.108901E-02	2.5	4.786819E-02	5	4.232487E-02	12.5	4.450145E-02	25	5.206986E-02	125	4.889323E-02
Ethyl Acetate (outside certification	0.5	0.4489892	1	0.4201636	2	0.4225214	5	0.479383	10	0.4613915	50	0.4739519

INITIAL CALIBRATION DATA (Continued)

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Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Acetone	200	8.201913E-02	300	8.901212E-02	400	9.330513E-02						
Acetonitrile	1000	2.241403E-02	1500	2.466505E-02	2000	2.339675E-02						
Acrolein	500	1.681573E-02	750	1.778853E-02	1000	1.944869E-02						
Acrylonitrile	500	0.1062044	750	0.1133171	1000	0.1124752						
Benzene	100	1.011548	150	1.000306	200	0.9699473						
Allyl chloride	100	0.1306979	150	0.1313264	200	0.1354836						
Bromobenzene	100	0.9273325	150	1.002775	200	0.992267						
Bromochloromethane	100	0.1887189	150	0.1909801	200	0.1893595						
Tert-Amyl Methyl Ether	100	0.768743	150	0.7842484	200	0.786373						
Bromodichloromethane	100	0.4555303	150	0.4873007	200	0.4980519						
Bromoform	100	0.7343089	150	0.8194518	200	~~0.8128094~~						
Bromomethane	100	0.1500309	150	0.1637391	200	~~0.1797221~~						
Bromofluorobenzene	30	1.009018	30	1.030688	30	1.005693						
n-Butylbenzene	100	1.782977	150	1.900994	200	1.900643						
2-Butanone	200	0.1697325	300	0.1814949	400	0.1845444						
sec-Butylbenzene	100	2.305723	150	2.458355	200	2.488166						
tert-Butylbenzene	100	1.821412	150	1.953759	200	1.941843						
Carbon disulfide	100	1.014683	150	1.070544	200	1.08						
Carbon tetrachloride	100	0.5246005	150	0.5745775	200	0.613011						
Chlorobenzene	100	1.545158	150	1.56718	200	1.498048						
Chloroethane	100	9.555595E-02	150	9.999774E-02	200	0.102997						
Chloroform	100	0.5947272	150	0.6234114	200	0.6400033						
2-Chloroethyl vinyl ether	200	0.1675068	300	0.1629254	400	0.1591599						
Chloromethane	100	0.1828484	150	0.1860918	200	0.1956339						
1-Chlorohexane	100	0.6403574	150	0.6299551	200	0.5859773						
2-Chlorotoluene	100	2.03398	150	2.199474	200	2.166599						
Chloroprene	100	0.533914	150	0.5736144	200	0.5994993						
4-Chlorotoluene	100	2.429595	150	2.600808	200	2.640032						
Cyclohexane	100	0.3672416	150	0.3711451	200	0.363371						
Dibromochloromethane	100	1.011626	150	~~1.098177~~	200	~~1.102987~~						
1,2-Dibromo-3-chloropropane	100	0.212228	150	0.2340875	200	~~0.2378948~~						

INITIAL CALIBRATION DATA (Continued)

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Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
1,2-Dibromoethane (EDB)	100	0.7909689	150	0.8417156	200	0.8286723						
Dibromomethane	100	0.2741626	150	0.2859721	200	0.285991						
1,2-Dichlorobenzene	100	1.423058	150	1.533709	200	1.52363						
1,3-Dichlorobenzene	100	1.434891	150	1.528021	200	1.535165						
trans-1,4-Dichloro-2-butene	100	0.345699	150	0.4041542	200	0.4029372						
cis-1,4-Dichloro-2-butene	100	0.3872947	150	0.4465428	200	0.453363						
1,4-Dichlorobenzene	100	1.445883	150	1.535688	200	1.536806						
Dichlorodifluoromethane	100	0.4393415	150	0.4675173	200	~~0.511811~~						
1,1-Dichloroethane	100	0.5543967	150	0.5894901	200	0.6051482						
1,2-Dichloroethane	100	0.556013	150	0.610364	200	0.6416612						
1,1-Dichloroethene	100	0.270181	150	0.2830796	200	0.2885856						
cis-1,2-Dichloroethene	100	0.2970161	150	0.301974	200	0.2991776						
trans-1,2-Dichloroethene	100	0.2685359	150	0.2635591	200	0.2608347						
1,2-Dichloroethene (total)	200	0.282776	300	0.2827665	400	0.2800061						
1,2-Dichloropropane	100	0.2797469	150	0.280396	200	0.2707906						
1,3-Dichloropropane	100	0.9441008	150	0.9811433	200	0.9304436						
2,2-Dichloropropane	100	0.4373698	150	0.4748438	200	0.4817266						
1,1-Dichloropropene	100	0.4000502	150	0.4042118	200	0.3968861						
cis-1,3-Dichloropropene	100	0.4728683	150	0.4793342	200	0.4804521						
trans-1,3-Dichloropropene	100	1.06002	150	1.102497	200	1.070141						
Diisopropyl Ether	100	1.074731	150	1.13429	200	1.151354						
1,4-Dioxane	2000	2.963195E-03	3000	2.978923E-03	4000	2.796154E-03						
Ethylbenzene	100	2.706997	150	2.825471	200	2.771386						
Ethyl tert-Butyl Ether	100	0.9063184	150	0.9552982	200	0.9714106						
Ethyl Methacrylate	100	0.7536439	150	0.7732486	200	0.7354121						
Hexachlorobutadiene	100	0.4755032	150	~~0.5514906~~	200	~~0.575283~~						
Hexane	100	0.1834566	150	0.1908016	200	0.1766385						
2-Hexanone	200	0.4927301	300	0.5262895	400	0.5112754						
Iodomethane	100	0.6524478	150	0.7035355	200	0.7224902						
Isobutyl alcohol	2000	5.151743E-03	3000	6.066352E-03	4000	5.864653E-03						
Isopropylbenzene	100	2.381883	150	2.484913	200	2.425019						

INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501102
Client: CB&I
Project: Radford AAP
Calibration: 5035003
Instrument: MS-VOA6
Matrix: Water
Calibration Dates: 2/2/15 10:39 2/2/15 14:19

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
p-Isopropyltoluene	100	1.835245	150	1.996392	200	2.033376						
Methacrylonitrile	1000	0.1676616	1500	0.1730058	2000	0.1773459						
Methylene chloride	100	0.3114945	150	0.3238542	200	0.3242302						
Methyl Acetate	100	0.2194423	150	0.2397111	200	0.2433237						
Methylcyclohexane	100	0.282453	150	0.2837624	200	0.2760377						
Naphthalene	100	2.156259	150	2.347675	200	2.389487						
Methyl Methacrylate	100	0.30805	150	0.3223757	200	0.327896						
4-Methyl-2-pentanone	200	0.3127365	300	0.3252627	400	0.3277654						
Methyl t-Butyl Ether	100	0.7660302	150	0.7978028	200	0.8199742						
n-Propylbenzene	100	3.125993	150	3.33745	200	3.352167						
Propionitrile	1000	3.873614E-02	1500	4.063067E-02	2000	4.040937E-02						
Styrene	100	1.58033	150	1.572901	200	1.505117						
1,1,2,2-Tetrachloroethane	100	0.8784493	150	0.9330949	200	0.8968849						
1,1,1,2-Tetrachloroethane	100	0.7368953	150	0.8026488	200	0.7960783						
tert-Butyl alcohol	500	2.454794E-02	750	2.846195E-02	1000	0.0301658						
Tetrachloroethene	100	0.7787561	150	0.819738	200	0.8099551						
Toluene	100	1.241057	150	1.210155	200	1.105361						
1,2,3-Trichlorobenzene	100	0.8866834	150	0.9959121	200	~~1.004902~~						
1,2,4-Trichlorobenzene	100	1.001984	150	1.112434	200	1.10558						
1,1,2-Trichloroethane	100	0.4986893	150	0.5108009	200	0.4777871						
1,1,1-Trichloroethane	100	0.5567923	150	0.5991579	200	0.6289769						
Tetrahydrofuran	100	2.711071E-02	150	2.870845E-02	200	2.951487E-02						
Trichloroethene	100	0.3338369	150	0.3407891	200	0.3401928						
Trichlorofluoromethane	100	0.5317514	150	0.5806387	200	~~0.6724042~~						
1,2,3-Trichloropropane	100	0.2507863	150	0.2664029	200	0.256369						
1,3,5-Trimethylbenzene	100	2.194461	150	2.376272	200	2.405772						
1,2,4-Trimethylbenzene	100	2.279612	150	2.453572	200	2.454773						
1,1,2-Trichloro-1,2,2-trifluoroethan	100	0.3178429	150	0.338024	200	0.325687						
Vinyl chloride	100	0.1332654	150	0.1508986	200	~~0.1829809~~						
m,p-Xylene	200	1.932988	300	2.010551	400	2.015946						
o-Xylene	100	1.974195	150	2.021858	200	1.956896						

INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501102
Client: CB&I
Project: Radford AAP
Calibration: 5035003
Instrument: MS-VOA6
Matrix: Water
Calibration Dates: 2/2/15 10:39 2/2/15 14:19

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Vinyl acetate	200	0.7065416	300	0.8098544	400	0.8514395						
Xylenes (total)	300	1.946724	450	2.01432	600	1.996262						
Dibromofluoromethane	30	0.3924413	30	0.3932169	30	0.4141102						
1,2-Dichloroethane-d4	30	6.860627E-02	30	7.141818E-02	30	7.021158E-02						
Toluene-d8	30	2.282978	30	2.355729	30	2.319533						
tert-Amyl alcohol	500	1.896821E-02	750	2.102421E-02	1000	2.113249E-02						
tert-Amyl ethyl ether	100	0.7993259	150	0.8100006	200	0.8290872						
1,3,5-Trichlorobenzene	100	1.037054	150	1.143701	200	1.166302						
Diethyl ether	100	0.1125585	150	0.1261073	200	~~0.1374293~~						
Cyclohexanone (outside certificatio	250	4.675099E-02	375	4.490263E-02	500	0.0409879						
Ethyl Acetate (outside certification	100	0.4494901	150	0.4767351	200	0.4840226						

INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501102
Client: CB&I
Project: Radford AAP
Calibration: 5035003
Instrument: MS-VOA6
Matrix: Water
Calibration Dates: 2/2/15 10:39 2/2/15 14:19

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Acetone	8.393088E-02	11.5101	3.376667	0.1471255			15	
Acetonitrile	2.174991E-02	14.12724	3.441111	0.2266104			15	
Acrolein	1.693073E-02	8.332011	3.265556	0.1607612			15	
Acrylonitrile	0.1026624	11.65835	4.184444	0.2109428			15	
Benzene	1.008978	4.059276	7.3	0.0664954			15	
Allyl chloride	0.1293526	6.198767	4.258889	0.183946			15	
Bromobenzene	0.8604558	12.8055	12.03778	2.976397E-02			15	
Bromochloromethane	0.1882072	7.476277	6.391111	9.636357E-02			15	
Tert-Amyl Methyl Ether	0.7307282	10.41413	7.504445	7.091523E-02			15	
Bromodichloromethane	0.4302463	11.55797	8.298889	6.915689E-02			15	
Bromoform	0.6221913	19.70791	11.4475	4.010131E-02		0.9997845	SPCC (0.1)	
Bromomethane	0.1210722	23.88683	2.51125	0.2550316		0.9999891	0.99	
Bromofluorobenzene	0.9602174	4.411661	11.88778	0.0293839			15	
n-Butylbenzene	1.685561	10.51847	13.47	1.667368E-02			15	
2-Butanone	0.1513041	21.12946	5.847778	7.724973E-02		0.9997759	0.99	
sec-Butylbenzene	2.204203	10.73735	12.93444	3.953806E-02			15	
tert-Butylbenzene	1.758701	9.514128	12.69889	2.356257E-02			15	
Carbon disulfide	1.00327	10.88644	4.347778	0.1532343			15	
Carbon tetrachloride	0.4673096	19.84563	7.266667	7.064074E-02		0.9999241	0.99	
Chlorobenzene	1.625216	6.908378	10.73	1.162253E-02			SPCC (0.3)	
Chloroethane	9.217727E-02	8.689104	2.634445	0.2003557			15	
Chloroform	0.6122972	4.276809	6.367778	6.557009E-02			CCC (30)	
2-Chloroethyl vinyl ether	0.1626875	7.869251	8.666667	5.634014E-02			15	
Chloromethane	0.173191	11.50408	1.978889	0.1689828			SPCC (0.1)	
1-Chlorohexane	0.6876092	10.28372	10.70667	4.788934E-02			15	
2-Chlorotoluene	1.919429	10.61551	12.26333	4.042897E-02			15	
Chloroprene	0.5326107	11.81539	5.65	0.125071			15	
4-Chlorotoluene	2.297038	10.30884	12.32778	0.0377889			15	
Cyclohexane	0.3800847	5.039496	7.198889	0.1085775			15	
Dibromochloromethane	0.8411127	14.54366	9.965714	5.057173E-02			15	
1,2-Dibromo-3-chloropropane	0.1696363	24.79285	14.065	3.617985E-02		0.9998549	0.99	
1,2-Dibromoethane (EDB)	0.7569804	8.839417	10.17778	0.0451998			15	

INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501102
Client: CB&I
Project: Radford AAP
Calibration: 5035003
Instrument: MS-VOA6
Matrix: Water
Calibration Dates: 2/2/15 10:39 2/2/15 14:19

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dibromomethane	0.2685557	6.979533	8.233333	6.379676E-02			15	
1,2-Dichlorobenzene	1.35837	9.877569	13.42	1.364728E-02			15	
1,3-Dichlorobenzene	1.409874	6.337322	13.01778	3.609891E-02			15	
trans-1,4-Dichloro-2-butene	0.2814541	32.13958	11.85667	4.416491E-02	0.9936534		0.99	
cis-1,4-Dichloro-2-butene	0.3157045	31.53625	11.54444	4.910645E-02	0.9939		0.99	
1,4-Dichlorobenzene	1.423143	6.697151	13.10889	0.0193242			15	
Dichlorodifluoromethane	0.359589	22.53271	1.78	1.775104E-02		0.9998617	0.99	
1,1-Dichloroethane	0.5367312	8.623264	5.381111	0.1114214			SPCC (0.1)	
1,2-Dichloroethane	0.5299127	13.2417	7.14	7.130057E-02			15	
1,1-Dichloroethene	0.2712962	8.571995	3.81	0.016838			CCC (30)	
cis-1,2-Dichloroethene	0.3223435	8.197416	6.107778	0.10802			15	
trans-1,2-Dichloroethene	0.2762251	6.726463	4.995555	0.1047216			15	
1,2-Dichloroethene (total)	0.2992843	6.78105	6.107778	0.10802			15	
1,2-Dichloropropane	0.2813272	6.819513	8.121111	3.414986E-02			CCC (30)	
1,3-Dichloropropane	0.9677091	5.452742	9.716667	5.514677E-02			15	
2,2-Dichloropropane	0.4334943	8.556743	6.214444	8.570957E-02			15	
1,1-Dichloropropene	0.3986414	5.508234	7.153333	7.015804E-02			15	
cis-1,3-Dichloropropene	0.4525049	8.675587	8.877778	0.0471416			15	
trans-1,3-Dichloropropene	0.995565	10.05175	9.352222	4.909248E-02			15	
Diisopropyl Ether	1.133338	6.51362	5.773333	8.639571E-02			15	
1,4-Dioxane	2.700454E-03	15.9869	8.286667	5.918969E-02	0.9981378		0.99	
Ethylbenzene	2.688187	5.388549	10.88222	0.0432101			CCC (30)	
Ethyl tert-Butyl Ether	0.9271748	5.867856	6.244444	8.270074E-02			15	
Ethyl Methacrylate	0.6782669	13.16847	9.552222	4.956593E-02			15	
Hexachlorobutadiene	0.4318097	14.47847	15.41714	2.861502E-02			15	
Hexane	0.1975399	7.503724	5.597778	7.861024E-02			15	
2-Hexanone	0.464716	10.14476	9.661111	6.265668E-02			15	
Iodomethane	0.5311792	31.78296	4.002222	0.1095969	0.9978691		0.99	
Isobutyl alcohol	4.439013E-03	25.0319	6.48	7.480633E-02	0.9948859		0.99	
Isopropylbenzene	2.332831	6.605179	11.78	3.794722E-02			15	
p-Isopropyltoluene	1.779004	10.41587	13.07333	3.633067E-02			15	
Methacrylonitrile	0.1849306	7.653592	6.017778	0.2155431			15	

INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501102
Client: CB&I
Project: Radford AAP
Calibration: 5035003
Instrument: MS-VOA6
Matrix: Water
Calibration Dates: 2/2/15 10:39 2/2/15 14:19

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Methylene chloride	0.332442	6.294953	4.308889	0.1392498			15	
Methyl Acetate	0.238341	11.66975	4.171111	0.1444637			15	
Methylcyclohexane	0.2860546	4.406553	8.448889	3.780977E-02			15	
Naphthalene	1.878004	20.86363	15.28111	2.395214E-02		0.9997112	0.99	
Methyl Methacrylate	0.2855346	14.19347	8.27	1.507978E-02			15	
4-Methyl-2-pentanone	0.295283	11.37706	8.807778	0.0459186			15	
Methyl t-Butyl Ether	0.7487891	8.874867	4.998889	6.637381E-02			15	
n-Propylbenzene	2.904436	11.87826	12.18222	2.977815E-02			15	
Propionitrile	3.629502E-02	12.80933	5.565556	0.1303339			15	
Styrene	1.615039	6.909042	11.35111	0.0306115			15	
1,1,2,2-Tetrachloroethane	0.8272332	9.22676	11.70778	3.761273E-02			SPCC (0.3)	
1,1,1,2-Tetrachloroethane	0.6888348	13.32679	10.77444	5.136493E-02			15	
tert-Butyl alcohol	2.012971E-02	31.87009	3.967778	0.1119991	0.9902083		0.99	
Tetrachloroethene	0.7611642	7.674601	10.07556	5.205422E-02			15	
Toluene	1.326292	8.8931	9.343334	5.433999E-02			CCC (30)	
1,2,3-Trichlorobenzene	0.792322	14.23422	15.5625	3.301357E-02			15	
1,2,4-Trichlorobenzene	0.9261069	14.68544	15.13222	2.601294E-02			15	
1,1,2-Trichloroethane	0.5022666	6.670327	9.504445	5.407438E-02			15	
1,1,1-Trichloroethane	0.5225295	12.69949	6.93	7.350092E-02			15	
Tetrahydrofuran	2.698473E-02	12.54796	6.57375	7.764734E-02			15	
Trichloroethene	0.327063	7.56532	8.071111	3.790553E-02			15	
Trichlorofluoromethane	0.4862505	14.48359	3.09	7.599986E-03			15	
1,2,3-Trichloropropane	0.2420485	9.209386	11.83111	2.899675E-02			15	
1,3,5-Trimethylbenzene	2.071666	11.75446	12.36444	0.0407744			15	
1,2,4-Trimethylbenzene	2.222477	9.642958	12.72889	2.355241E-02			15	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.3084647	9.899519	3.883333	0.1819131			15	
Vinyl chloride	0.1225879	13.6656	2.1125	0.2181489			CCC (30)	
m,p-Xylene	1.993581	4.410788	10.99444	4.952602E-02			15	
o-Xylene	2.052052	5.600265	11.37889	3.808236E-02			15	
Vinyl acetate	0.6565683	19.50038	5.465555	0.0966283		0.9995066	0.99	
Xylenes (total)	2.013072	4.522607	11.37889	3.808236E-02			15	
Dibromofluoromethane	0.404385	2.820114	6.538889	4.959556E-02			15	

INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501102
Client: CB&I
Project: Radford AAP
Calibration: 5035003
Instrument: MS-VOA6
Matrix: Water
Calibration Dates: 2/2/15 10:39 2/2/15 14:19

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
1,2-Dichloroethane-d4	7.093838E-02	2.860461	7.044445	7.538962E-02			15	
Toluene-d8	2.21354	3.719206	9.271111	6.341254E-02			15	
tert-Amyl alcohol	1.497925E-02	36.2996	6.75375	7.553646E-02	0.9957777		0.99	
tert-Amyl ethyl ether	0.7656162	9.192938	8.401111	0.0683008			15	
1,3,5-Trichlorobenzene	0.9977126	11.1134	14.58667	3.431237E-02			15	
Diethyl ether	0.1047588	12.28088	3.48125	0.1020481	0.9953386		0.99	
Cyclohexanone (outside certification)	4.548757E-02	8.265964	11.49889	2.916533E-02			15	
Ethyl Acetate (outside certification)	0.4574054	5.237942	6.231111	9.599469E-02			15	

Per current DoD QSM requirements, effective 03/17/2014, Empirical has updated the linear calibration coefficient requirements to reflect a limit of 0.990 for "r2" rather than the previously reported limit of 0.995 for "r". The change in assessment criteria is consistent with regulatory requirements.

INITIAL CALIBRATION CHECK

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501102
Client:	CB&I	Project:	Radford AAP
Instrument ID:	MS-VOA6	Calibration:	5035003
Lab File ID:	0202ICV1.D	Calibration Date:	02/02/15 10:39
Sequence:	5B03418	Injection Date:	02/02/15
Lab Sample ID:	5B03418-ICV1	Injection Time:	15:14

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Acetone	A	100.0	100.4	8.393088E-02	8.423887E-02		0.4	20
Benzene	A	50.00	50.31	1.008978	1.0152		0.6	20
Bromodichloromethane	A	50.00	52.64	0.4302463	0.4529414		5.3	20
Bromoform	Q	50.00	51.79	0.6221913	0.7014564	0.1	3.6	20
Bromomethane	Q	50.00	56.96	0.1210722	0.1563557		13.9	20
2-Butanone	Q	100.0	104.0	0.1513041	0.1751565		4.0	20
Carbon disulfide	A	50.00	51.25	1.00327	1.028372		2.5	20
Carbon tetrachloride	Q	50.00	50.88	0.4673096	0.5003655		1.8	20
Chlorobenzene	A	50.00	49.63	1.625216	1.613108	0.3	-0.7	20
Chloroethane	A	50.00	46.64	9.217727E-02	8.599137E-02		-6.7	20
Chloroform	A	50.00	48.64	0.6122972	0.5956956		-2.7	20
Chloromethane	A	50.00	57.57	0.173191	0.1994128	0.1	15.1	20
Dibromochloromethane	A	50.00	57.88	0.8411127	0.9736608		15.8	20
1,1-Dichloroethane	A	50.00	49.51	0.5367312	0.5315159	0.1	-1.0	20
1,2-Dichloroethane	A	50.00	51.24	0.5299127	0.5430129		2.5	20
1,1-Dichloroethene	A	50.00	49.18	0.2712962	0.2668262		-1.6	20
cis-1,2-Dichloroethene	A	50.00	47.46	0.3223435	0.3059455		-5.1	20
trans-1,2-Dichloroethene	A	50.00	51.60	0.2762251	0.2850756		3.2	20
1,2-Dichloropropane	A	50.00	51.25	0.2813272	0.2883871		2.5	20
cis-1,3-Dichloropropene	A	50.00	52.07	0.4525049	0.4711983		4.1	20
trans-1,3-Dichloropropene	A	50.00	50.05	0.995565	0.9965729		0.1	20
Ethylbenzene	A	50.00	50.68	2.688187	2.724548		1.4	20
2-Hexanone	A	100.0	105.4	0.464716	0.4897024		5.4	20
Methylene chloride	A	50.00	48.29	0.332442	0.3210682		-3.4	20
4-Methyl-2-pentanone	A	100.0	104.3	0.295283	0.307896		4.3	20
Styrene	A	50.00	51.52	1.615039	1.664019		3.0	20
1,1,2,2-Tetrachloroethane	A	50.00	50.25	0.8272332	0.8314448	0.3	0.5	20
Tetrachloroethene	A	50.00	51.95	0.7611642	0.7908387		3.9	20
Toluene	A	50.00	51.42	1.326292	1.363876		2.8	20

INITIAL CALIBRATION CHECK

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501102
Client:	CB&I	Project:	Radford AAP
Instrument ID:	MS-VOA6	Calibration:	5035003
Lab File ID:	0202ICV1.D	Calibration Date:	02/02/15 10:39
Sequence:	5B03418	Injection Date:	02/02/15
Lab Sample ID:	5B03418-ICV1	Injection Time:	15:14

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
1,1,2-Trichloroethane	A	50.00	52.11	0.5022666	0.5234901		4.2	20
1,1,1-Trichloroethane	A	50.00	51.29	0.5225295	0.5360241		2.6	20
Trichloroethene	A	50.00	51.20	0.327063	0.3349314		2.4	20
Vinyl chloride	A	50.00	55.75	0.1225879	0.1366751		11.5	20
m,p-Xylene	A	100.0	102.0	1.993581	2.032926		2.0	20
o-Xylene	A	50.00	49.37	2.052052	2.026383		-1.3	20
Bromofluorobenzene	A	30.00	30.82	0.9602174	0.9864592		2.7	20
Dibromofluoromethane	A	30.00	28.80	0.404385	0.3882326		-4.0	20
1,2-Dichloroethane-d4	A	30.00	28.64	7.093838E-02	6.773285E-02		-4.5	20
Toluene-d8	A	30.00	30.37	2.21354	2.240681		1.2	20

CONTINUING CALIBRATION CHECK

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501102
Client:	CB&I	Project:	Radford AAP
Instrument ID:	MS-VOA6	Calibration:	5035003
Lab File ID:	0203CCV1.D	Calibration Date:	02/02/15 10:39
Sequence:	5B03707	Injection Date:	02/03/15
Lab Sample ID:	5B03707-CCV1	Injection Time:	09:48

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Acetone	A	200.0	225.6	8.393088E-02	0.0946715		12.8	20
Benzene	A	100.0	103.2	1.008978	1.041159		3.2	20
Bromodichloromethane	A	100.0	111.2	0.4302463	0.4784695		11.2	20
Bromoform	Q	100.0	95.61	0.6221913	0.7071813	0.1	-4.4	20
Bromomethane	Q	100.0	107.4	0.1210722	0.1628968		7.4	20
2-Butanone	Q	200.0	209.0	0.1513041	0.1822152		4.5	20
Carbon disulfide	A	100.0	105.9	1.00327	1.062573		5.9	20
Carbon tetrachloride	Q	100.0	102.1	0.4673096	0.5449114		2.1	20
Chlorobenzene	A	100.0	93.44	1.625216	1.518562	0.3	-6.6	20
Chloroethane	A	100.0	113.5	9.217727E-02	0.1046626		13.5	20
Chloroform	A	100.0	101.6	0.6122972	0.6219924		1.6	20
Chloromethane	A	100.0	112.1	0.173191	0.1941003	0.1	12.1	20
Dibromochloromethane	A	100.0	119.9	0.8411127	1.008629		19.9	20
1,1-Dichloroethane	A	100.0	109.7	0.5367312	0.5885608	0.1	9.7	20
1,2-Dichloroethane	A	100.0	109.8	0.5299127	0.5820194		9.8	20
1,1-Dichloroethene	A	100.0	102.9	0.2712962	0.2790312		2.9	20
cis-1,2-Dichloroethene	A	100.0	96.91	0.3223435	0.3123754		-3.1	20
trans-1,2-Dichloroethene	A	100.0	101.9	0.2762251	0.2815124		1.9	20
1,2-Dichloropropane	A	100.0	102.2	0.2813272	0.2875009		2.2	20
cis-1,3-Dichloropropene	A	100.0	107.8	0.4525049	0.4880167		7.8	20
trans-1,3-Dichloropropene	A	100.0	106.2	0.995565	1.056827		6.2	20
Ethylbenzene	A	100.0	100.3	2.688187	2.697003		0.3	20
2-Hexanone	A	200.0	200.8	0.464716	0.466556		0.4	20
Methylene chloride	A	100.0	98.98	0.332442	0.3290371		-1.0	20
4-Methyl-2-pentanone	A	200.0	203.3	0.295283	0.3001568		1.7	20
Styrene	A	100.0	96.48	1.615039	1.558216		-3.5	20
1,1,2,2-Tetrachloroethane	A	100.0	104.1	0.8272332	0.8611741	0.3	4.1	20
Tetrachloroethene	A	100.0	101.5	0.7611642	0.7723279		1.5	20
Toluene	A	100.0	92.37	1.326292	1.225101		-7.6	20

CONTINUING CALIBRATION CHECK

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501102
Client:	CB&I	Project:	Radford AAP
Instrument ID:	MS-VOA6	Calibration:	5035003
Lab File ID:	0203CCV1.D	Calibration Date:	02/02/15 10:39
Sequence:	5B03707	Injection Date:	02/03/15
Lab Sample ID:	5B03707-CCV1	Injection Time:	09:48

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
1,1,2-Trichloroethane	A	100.0	98.30	0.5022666	0.4937329		-1.7	20
1,1,1-Trichloroethane	A	100.0	109.8	0.5225295	0.5739313		9.8	20
Trichloroethene	A	100.0	103.1	0.327063	0.3372056		3.1	20
Vinyl chloride	A	100.0	117.5	0.1225879	0.1440445		17.5	20
m,p-Xylene	A	200.0	193.7	1.993581	1.930988		-3.1	20
o-Xylene	A	100.0	94.36	2.052052	1.936365		-5.6	20
Bromofluorobenzene	A	30.00	30.79	0.9602174	0.9855724		2.6	20
Dibromofluoromethane	A	30.00	29.70	0.404385	0.4002991		-1.0	20
1,2-Dichloroethane-d4	A	30.00	31.48	7.093838E-02	7.444638E-02		4.9	20
Toluene-d8	A	30.00	29.96	2.21354	2.210831		-0.1	20

HOLDING TIME SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC SDG: 1501102

Client: CB&I Project: Radford AAP

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
13MW3	01/26/15 09:25	01/27/15 08:45	02/03/15 14:52	N/A	14.00	02/03/15 14:52	8.27	14.00	
49MW04	01/26/15 09:35	01/27/15 08:45	02/03/15 15:19	N/A	14.00	02/03/15 15:19	8.28	14.00	
Trip Blank #14-0841	01/26/15 09:35	01/27/15 08:45	02/03/15 13:02	N/A	14.00	02/03/15 13:02	8.19	14.00	
13MW2	01/26/15 11:10	01/27/15 08:45	02/03/15 15:47	N/A	14.00	02/03/15 15:47	8.23	14.00	
13MW4	01/26/15 11:20	01/27/15 08:45	02/03/15 16:14	N/A	14.00	02/03/15 16:14	8.25	14.00	
49MW05	01/26/15 12:55	01/27/15 08:45	02/03/15 16:42	N/A	14.00	02/03/15 16:42	8.20	14.00	
13MW5	01/26/15 13:10	01/27/15 08:45	02/03/15 17:09	N/A	14.00	02/03/15 17:09	8.21	14.00	

Data for SW8260B
Supporting Raw Data / Logs

Sequence Name: C:\HPCHEM\1\SEQUENCE\020215V6.S
Comment: 8260B/C/624
Operator:
Data Path: d:\DATA\020215V6\
Pre-Seq Cmd:
Post-Seq Cmd:

mm 1/5
1281

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name	
1	Sample	47	PREBLK1	VW6SUR	PREBLK1	
2	Sample	48	PREBLK2	VW6SUR	PREBLK2	
3	Sample	49	PREBLK3	VW6SUR	PREBLK3	
4	Sample	51	0202TUN1	VW6SUR	SEQ-TUN1 9:15, 2/2	
5	Sample	1	BLANK	VW6SUR	BLANK	
6	Sample	2	0202CALA	VW6SUR	SEQ-CALA	
7	Sample	3	0202CAL1	VW6SUR	SEQ-CAL1	
8	Sample	4	0202CAL2	VW6SUR	SEQ-CAL2	
9	Sample	5	0202CAL3	VW6SUR	SEQ-CAL3	
10	Sample	6	0202CAL4	VW6SUR	SEQ-CAL4	
11	Sample	7	0202CAL5	VW6SUR	SEQ-CAL5	
12	Sample	8	0202CAL6	VW6SUR	SEQ-CAL6	
13	Sample	9	0202CAL7	VW6SUR	SEQ-CAL7	ALSO CCV1
14	Sample	10	0202CAL8	VW6SUR	SEQ-CAL8	
15	Sample	11	0202CAL9	VW6SUR	SEQ-CAL9	
16	Sample	12	BLK1	VW6SUR	BLANK1	
17	Sample	13	0202ICV1	VW6SUR	SEQ-ICV1	ALSO LCS1
18	Sample	14	0202ICV2	VW6SUR	SEQ-ICV2	
19	Sample	15	0202ICV3	VW6SUR	SEQ-ICV3 NR	
20	Sample	16	BLK2	VW6SUR	BLANK2	
21	Sample	17	BLK3	VW6SUR	BLANK3	
22	Sample	18	0202BLK1	VW6SUR	5B-BLK1	
23	Sample	19	0105309A	VW6SUR	1501053-09 RR 2X as well flow	
24	Sample	20	0105317A	VW6SUR	1501053-17	
25	Sample	21	BLK4	VW6SUR	BLANK4	
26	Sample	22	0202LCD1	VW6SUR	5B-BSD1	
27	Sample	23	0202HCV1	VW6SUR	SEQ-HCV1	

7:49, 2/2

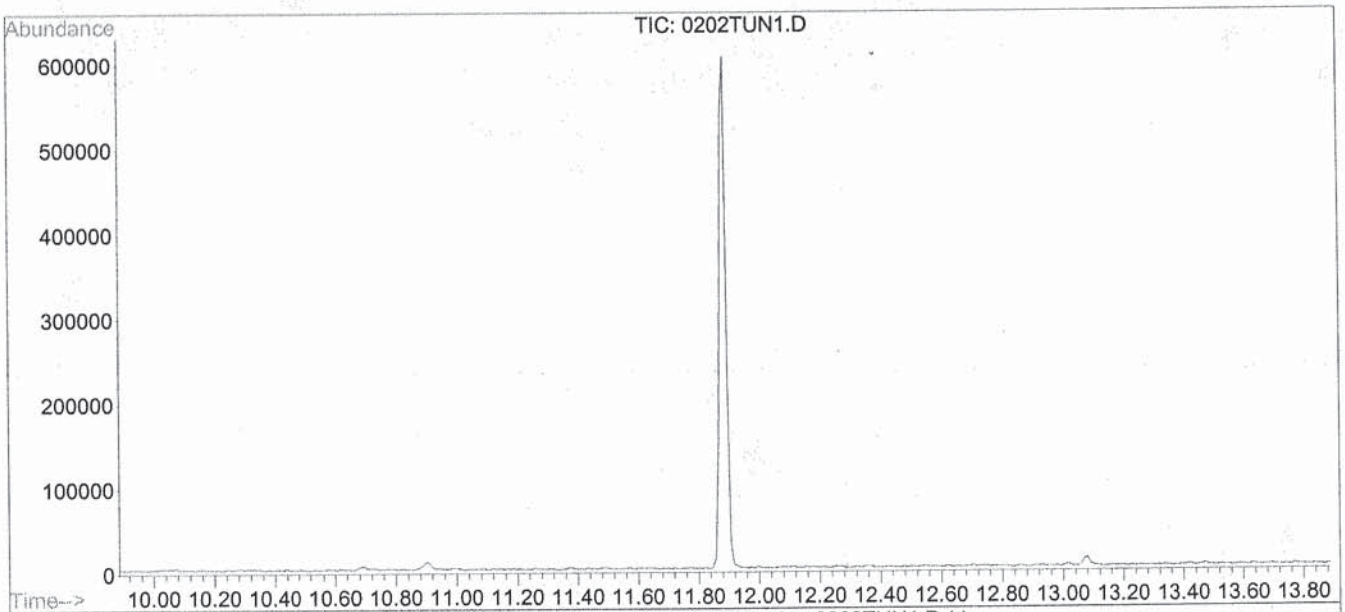
PT batch = SB02019

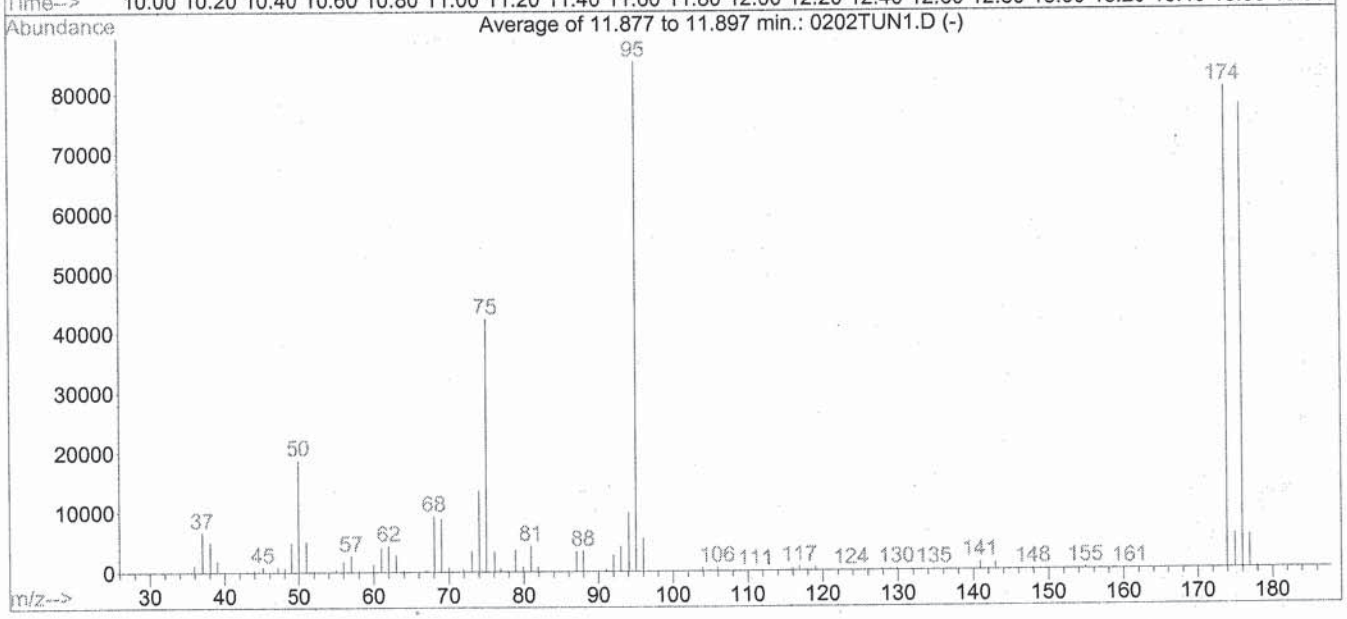
Last Modified: Mon Feb 02 10:32:40 2015 Page: 1

BFB

Data File : D:\DATA\020215V6\0202TUN1.D
Acq On : 2 Feb 2015 9:15 am
Sample : SEQ-TUN1
Misc : 1
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B

Vial: 51
Operator:
Inst : NSH-VOA6
Multiplr: 1.00





AutoFind: Scans 1152, 1153, 1154; Background Corrected with Scan 1146

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.0	18783	PASS
75	95	30	60	49.7	42353	PASS
95	95	100	100	100.0	85259	PASS
96	95	5	9	6.5	5556	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	94.5	80547	PASS
175	174	5	9	7.1	5736	PASS
176	174	95	101	96.3	77573	PASS
177	176	5	9	7.0	5430	PASS

0202TUN1.D 020215W6.M Mon Feb 02 10:44:39 2015

2/2/15

02/05/15

Average of 11.877 to 11.897 min.: 0202TUN1.D
SEQ-TUN1
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.95	1183	48.05	720	62.00	4357	74.05	13541
37.00	6652	49.00	4898	63.00	2855	75.00	42353
38.05	5010	50.00	18783	64.00	323	76.05	3375
39.00	1857	51.05	5185	64.70	53	76.90	527
39.95	213	52.05	246	66.90	253	77.85	121
40.75	55	55.00	420	67.15	241	78.85	3649
42.95	246	56.00	1668	68.05	9291	79.90	923
43.20	68	57.00	2692	69.00	8800	80.95	4351
43.95	389	58.05	283	70.00	710	81.90	735
45.10	851	60.00	1270	71.95	507	82.85	106
47.10	871	61.05	4049	73.05	3477	85.85	63

Average of 11.877 to 11.897 min.: 0202TUN1.D
SEQ-TUN1
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
87.05	3331	102.90	53	116.00	418	137.00	184
87.95	3460	103.95	593	116.90	673	140.90	1363
91.00	363	104.85	156	117.85	222	141.90	137
91.25	74	105.95	688	118.05	172	142.90	1132
92.00	2699	107.00	109	119.00	583	145.85	76
93.00	4134	110.75	67	123.80	124	146.05	115
94.05	9810	111.05	75	127.85	269	147.90	203
95.00	85259	112.05	72	128.95	245	149.80	66
96.00	5556	112.95	68	129.85	299	154.00	78
96.80	67	114.80	77	131.05	56	154.90	315
97.10	77	115.10	70	134.80	195	156.65	65

Average of 11.877 to 11.897 min.: 0202TUN1.D
SEQ-TUN1
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
156.95	113						
158.75	188						
160.90	62						
170.05	70						
171.55	63						
173.90	80547						
175.00	5736						
175.95	77573						
176.95	5430						
177.90	175						

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL1.D Vial: 3
Acq On : 2 Feb 2015 10:39 am Operator:
Sample : SEQ-CAL1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:44 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:21:31 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

02/05/15

mw3/15

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	7.57	96	915924	30.00	ug/L		0.00
60) Chlorobenzene-d5	10.69	82	394266	30.00	ug/L		0.00
83) 1,4-Dichlorobenzene-d4	13.08	152	380041	30.00	ug/L		0.00
System Monitoring Compounds							
38) Dibromofluoromethane	6.53	111	359712	29.38	ug/L		0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 97.93%				
42) 1,2-Dichloroethane-d4	7.04	102	64677	30.01	ug/L		0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 100.03%				
61) Toluene-d8	9.26	98	855786	29.46	ug/L		0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 98.20%				
82) Bromofluorobenzene	11.89	95	372191	29.50	ug/L		0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 98.33%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.78	85	4774	0.4246	ug/L		93
3) Chloromethane	1.98	50	3042	0.5973	ug/L		92
4) Vinyl chloride	2.11	62	2088	0.5428	ug/L	#	71
5) Bromomethane	2.52	94	1118m	0.2804	ug/L		
6) Chloroethane	2.63	64	1478m	0.5465	ug/L		
7) Trichlorofluoromethane	3.09	101	6284	0.4222	ug/L	#	76
8) Acrolein	3.26	56	1409	2.8044	ug/L	#	47
9) Acetone	3.37	43	2820m	1.1145	ug/L		
10) Acetonitrile	3.43	41	4138	6.4295	ug/L		98
11) Ethyl Ether	3.48	59	1441	0.4285	ug/L	#	47
12) 1,1-Dichloroethene	3.81	96	4570	0.5540	ug/L	#	73
13) Trichlorotrifluoroethane	3.88	101	5074	0.5453	ug/L		82
14) Iodomethane	4.00	142	4365	0.2707	ug/L	#	97
15) t-Butyl Alcohol	3.97	59	1138	1.7006	ug/L	#	1
16) Methyl Acetate	4.16	43	4558	0.6161	ug/L	#	79
17) Acrylonitrile	4.18	53	6695	2.0276	ug/L	#	87
18) Allyl chloride	4.27	76	2004	0.5026	ug/L	#	75
19) Methylene chloride	4.30	84	5523	0.5502	ug/L		93
20) Carbon disulfide	4.34	76	15174	0.4949	ug/L		98
21) trans-1,2-dichloroethene	5.00	96	4167	0.4861	ug/L		97
22) MTBE	5.00	73	11186	0.4885	ug/L	#	89
23) 1,1-Dichloroethane	5.38	63	7279	0.4403	ug/L	#	90
24) Vinyl acetate	5.46	43	18137	0.8789	ug/L		98
25) Propionitrile	5.57	54	4904	4.1699	ug/L	#	86
26) Hexane	5.60	57	3393	0.5458	ug/L	#	77
27) Chloroprene	5.65	53	8877	0.5592	ug/L		98
28) Di-isopropyl ether	5.77	45	19126	0.5452	ug/L		96
29) 2-Butanone	5.84	43	3361	0.6910	ug/L	#	91
30) Methacrylonitrile	6.01	41	29683	5.1020	ug/L		94
31) cis-1,2-Dichloroethene	6.11	96	5672	0.5682	ug/L	#	82
32) Ethyl Acetate	6.23	43	6854	0.4938	ug/L	#	85
33) 2,2-Dichloropropane	6.21	77	6730	0.5108	ug/L		99
34) ETBE	6.24	59	14739	0.5176	ug/L		100
35) Chloroform	6.37	83	9914	0.5387	ug/L		85
36) Bromochloromethane	6.39	128	2707	0.4627	ug/L		88
37) Isobutyl alcohol	6.48	42	1265	8.4161	ug/L	#	71
39) Tetrahydrofuran	6.57	72	241	0.2925	ug/L	#	1
40) tert-Amyl alcohol	6.74	59	445	0.9580	ug/L	#	1
41) 1,1,1-Trichloroethane	6.93	97	6933	0.4391	ug/L		93

(#) = qualifier out of range (m) = manual integration
0202CAL1.D 020215W6.M Tue Feb 03 06:47:10 2015 Page 1

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL1.D
Acq On : 2 Feb 2015 10:39 am
Sample : SEQ-CAL1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:44 2015

Vial: 3
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:21:31 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
43) 1,2-Dichloroethane	7.14	62	6902	0.4294 ug/L #	95
44) 1,1-Dichloropropene	7.15	75	5951	0.4783 ug/L	98
45) Cyclohexane	7.19	56	6439	0.5382 ug/L	86
46) Carbon tetrachloride	7.26	117	6159	0.4342 ug/L	90
47) Benzene	7.30	78	15651	0.5009 ug/L	98
48) tert- Amyl Methyl Ether	7.50	73	9963	0.4395 ug/L #	88
49) Trichloroethene	8.07	95	4882	0.4792 ug/L	96
50) 1,2-Dichloropropane	8.12	63	4773	0.5552 ug/L	94
51) Dibromomethane	8.23	93	4161	0.5097 ug/L	92
52) Methyl methacrylate	8.27	41	4839	0.5359 ug/L #	93
53) 1,4-Dioxane	8.28	88	678	8.1072 ug/L #	95
54) Bromodichloromethane	8.30	83	5755	0.4387 ug/L	95
55) tert- Amyl Ethyl Ether	8.40	59	11946	0.5099 ug/L	96
56) Methyl cyclohexane	8.45	83	4350	0.4888 ug/L #	81
57) 2-Chloroethyl vinyl ether	8.66	63	4687	0.9487 ug/L	96
58) 4-Methyl-2-pentanone	8.81	43	9248	0.9985 ug/L #	86
59) cis-1,3-Dichloropropene	8.87	75	6964	0.5014 ug/L	92
62) trans-1,3-Dichloropropene	9.35	75	5980	0.4480 ug/L #	93
63) Toluene	9.34	92	9051	0.5083 ug/L	97
64) 1,1,2-Trichloroethane	9.50	83	3437	0.5130 ug/L	87
65) Ethyl methacrylate	9.55	69	3823	0.4043 ug/L	89
66) 2-Hexanone	9.66	43	5327	0.8158 ug/L #	95
67) 1,3-Dichloropropane	9.72	76	6408	0.5034 ug/L	99
68) Dibromochloromethane	9.96	129	4991	0.4145 ug/L	95
69) Tetrachloroethene	10.07	166	4960	0.4919 ug/L	98
70) 1,2-Dibromoethane	10.17	107	4402	0.4366 ug/L	83
71) 1-Chlorohexane	10.70	91	5438	0.6175 ug/L #	1
72) Chlorobenzene	10.73	112	11854	0.5574 ug/L	90
73) 1,1,1,2-Tetrachloroethane	10.77	131	4415	0.4863 ug/L #	1
74) Ethylbenzene	10.88	91	17766	0.4999 ug/L	97
75) m,p-Xylene	10.99	91	26640	1.0122 ug/L #	81
76) Styrene	11.35	104	10240	0.4788 ug/L	87
77) o-Xylene	11.38	91	14744	0.5480 ug/L	93
78) Bromoform	11.44	173	3712	0.4324 ug/L	98
79) Cyclohexanone	11.50	55	675	0.5723 ug/L #	63
80) Isopropylbenzene	11.78	105	14434	0.4644 ug/L	91
81) 1,2,3-Trichloropropane	11.83	110	1515	0.4677 ug/L #	1
84) cis-1,4-Dichloro-2-butene	11.54	53	1467	0.3550 ug/L #	78
85) 1,1,2,2-Tetrachloroethane	11.71	83	4842	0.4599 ug/L	95
86) trans-1,4-Dichloro-2-buten	11.85	53	1228	0.3315 ug/L #	1
87) Bromobenzene	12.03	156	4509	0.4053 ug/L	86
88) n-Propylbenzene	12.18	91	16328	0.4442 ug/L	97
89) 2-Chlorotoluene	12.26	91	11368	0.4705 ug/L	93
90) 4-Chlorotoluene	12.32	91	12936	0.4444 ug/L	96
91) 1,3,5-Trimethylbenzene	12.36	105	11590	0.4398 ug/L	92
92) tert-Butylbenzene	12.69	119	10896	0.4910 ug/L	93
93) 1,2,4-Trimethylbenzene	12.73	105	14198	0.5077 ug/L	93
94) sec-Butylbenzene	12.93	105	12914	0.4628 ug/L	100
95) 1,3-Dichlorobenzene	13.01	146	8453	0.4735 ug/L	93
96) 1,4-Dichlorobenzene	13.11	146	8681m	0.4750 ug/L	
97) p-Isopropyltoluene	13.07	119	10796	0.4777 ug/L #	88
98) 1,2-Dichlorobenzene	13.42	146	7902	0.4541 ug/L	94
99) n-Butylbenzene	13.47	91	9602	0.4500 ug/L	98

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

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL1.D
Acq On : 2 Feb 2015 10:39 am
Sample : SEQ-CAL1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:44 2015

Vial: 3
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:21:31 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

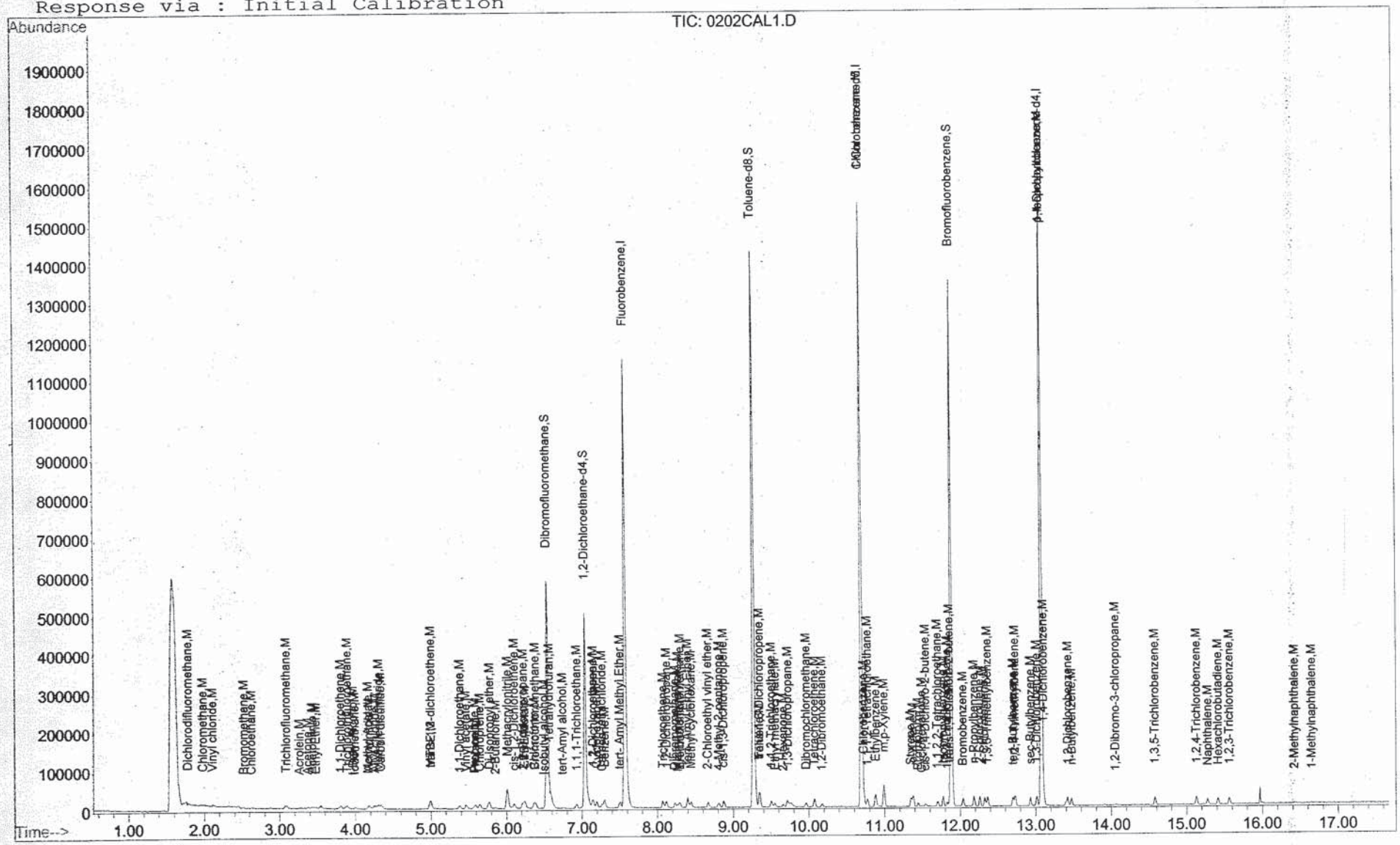
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
100) 1,2-Dibromo-3-chloropropan	14.06	157	823	0.3572 ug/L #	70
101) 1,3,5-Trichlorobenzene	14.59	180	6280	0.4992 ug/L	91
102) 1,2,4-Trichlorobenzene	15.13	180	5766	0.4938 ug/L	94
103) Naphthalene	15.28	128	9272	0.3851 ug/L	100
104) Hexachlorobutadiene	15.41	225	3468	0.6141 ug/L	92
105) 1,2,3-Trichlorobenzene	15.56	180	4586	0.4418 ug/L	97
106) 2-Methylnaphthalene	16.42	142	955	0.1008 ug/L #	79
107) 1-Methylnaphthalene	16.65	142	697m	0.0906 ug/L	

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

Data File : D:\DATA\020215V6\0202CAL1.D
Acq On : 2 Feb 2015 10:39 am
Sample : SEQ-CAL1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:44 2015

Vial: 3
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:42:32 2015
Response via : Initial Calibration

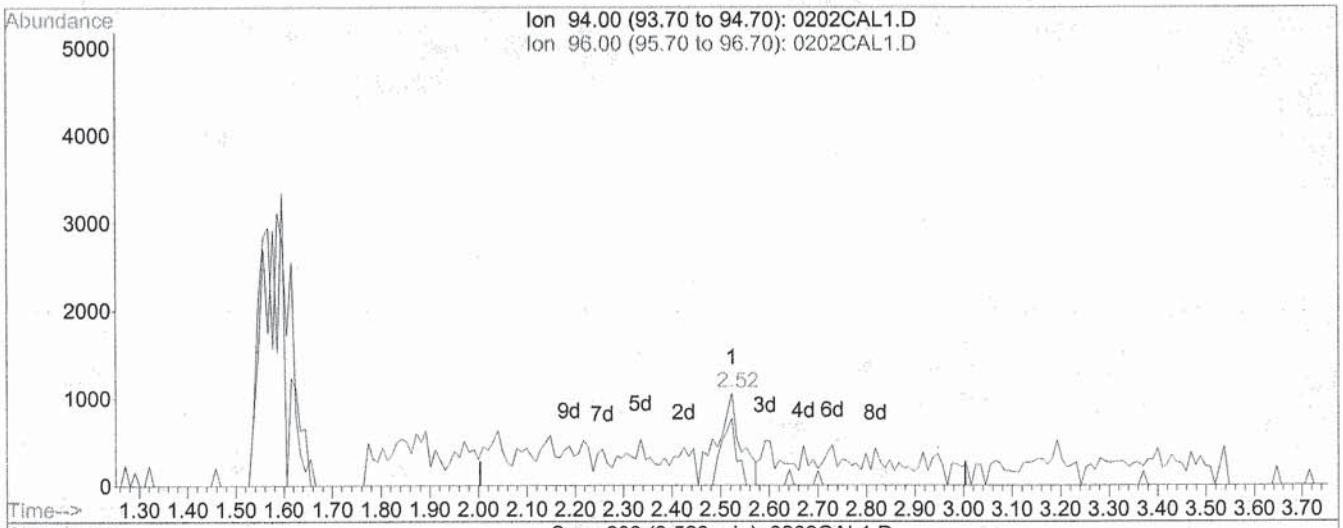


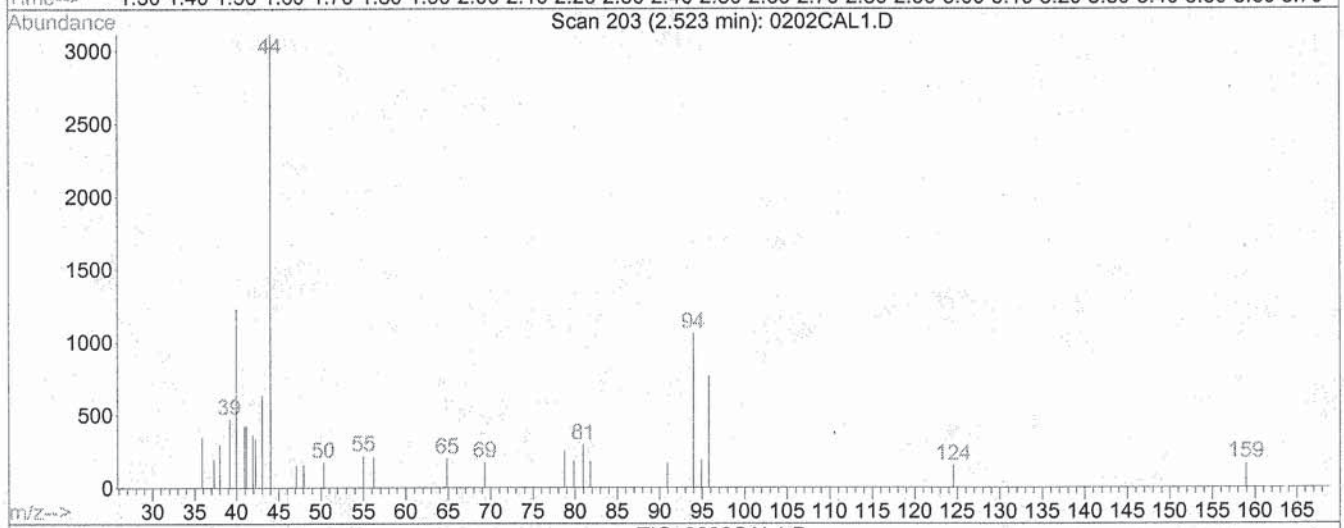
76
1501102

Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL1.D Vial: 3
Acq On : 2 Feb 2015 10:39 am Operator:
Sample : SEQ-CAL1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:27 2015 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:42:32 2015
Response via : Multiple Level Calibration





TIC: 0202CAL1.D

(5) Bromomethane (M)

2.52min 0.90ug/L

response 3570

Ion	Exp%	Act%
94.00	100	100
96.00	91.00	45.74#
0.00	0.00	0.00
0.00	0.00	0.00

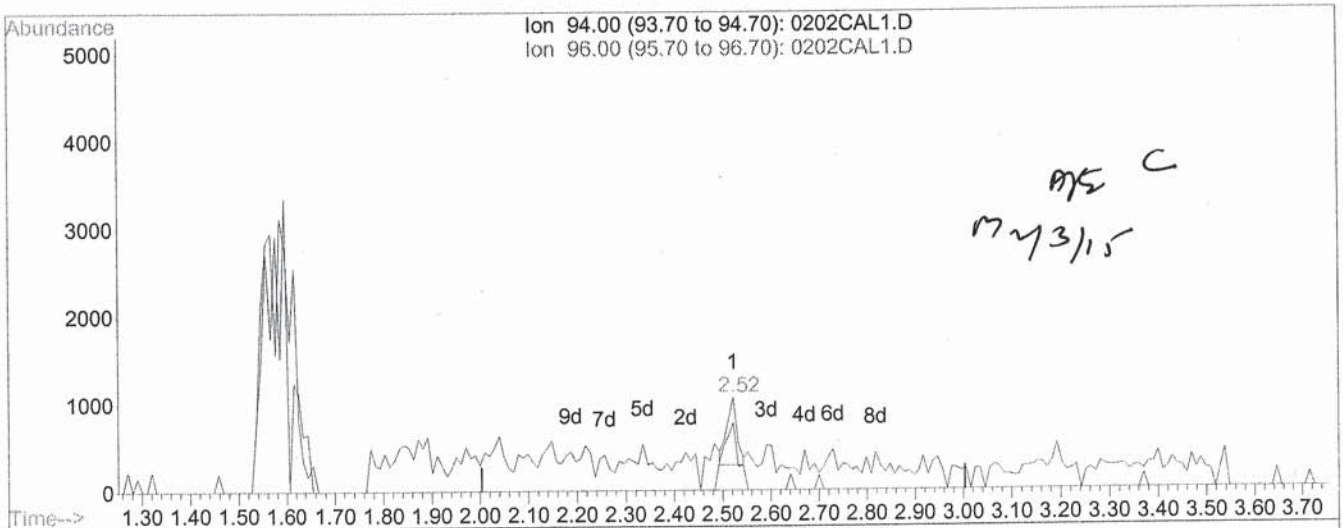
0202CAL1.D 020215W6.M Tue Feb 03 06:44:13 2015

Quantitation Report (Qedit)

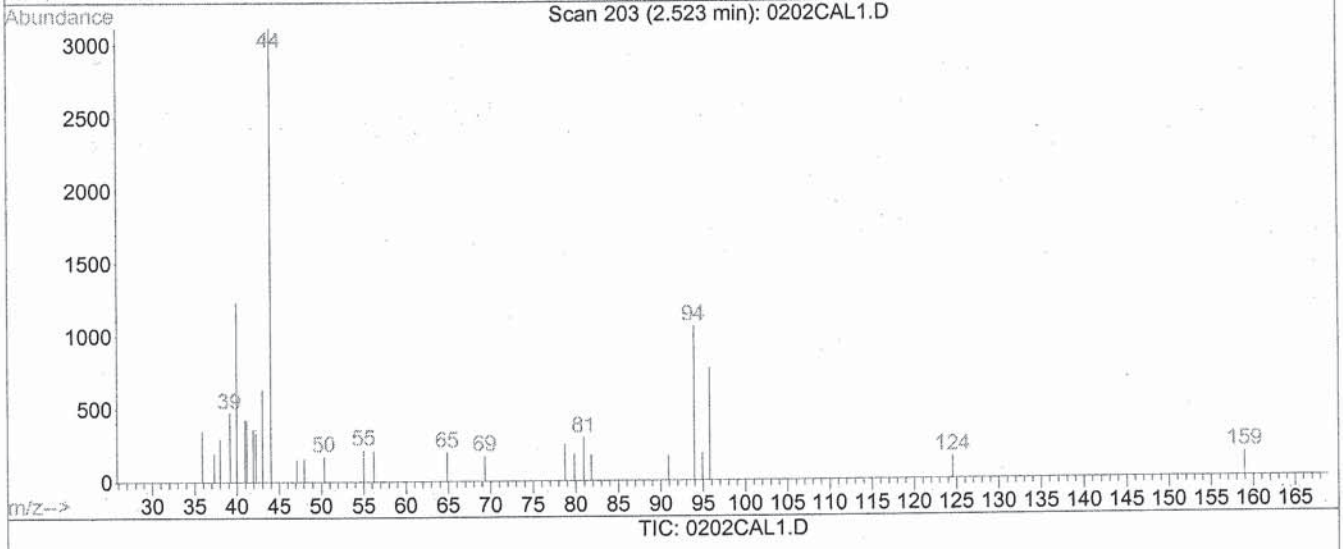
Data File : D:\DATA\020215V6\0202CAL1.D
Acq On : 2 Feb 2015 10:39 am
Sample : SEQ-CAL1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:44 2015

Vial: 3
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:42:32 2015
Response via : Multiple Level Calibration



BTEX C
MW 3/15



TIC: 0202CAL1.D

(5) Bromomethane (M)

2.52min 0.28ug/L m

response 1118

Ion	Exp%	Act%
94.00	100	100
96.00	91.00	146.06#
0.00	0.00	0.00
0.00	0.00	0.00

02/05/15

0202CAL1.D 020215W6.M Tue Feb 03 06:44:43 2015

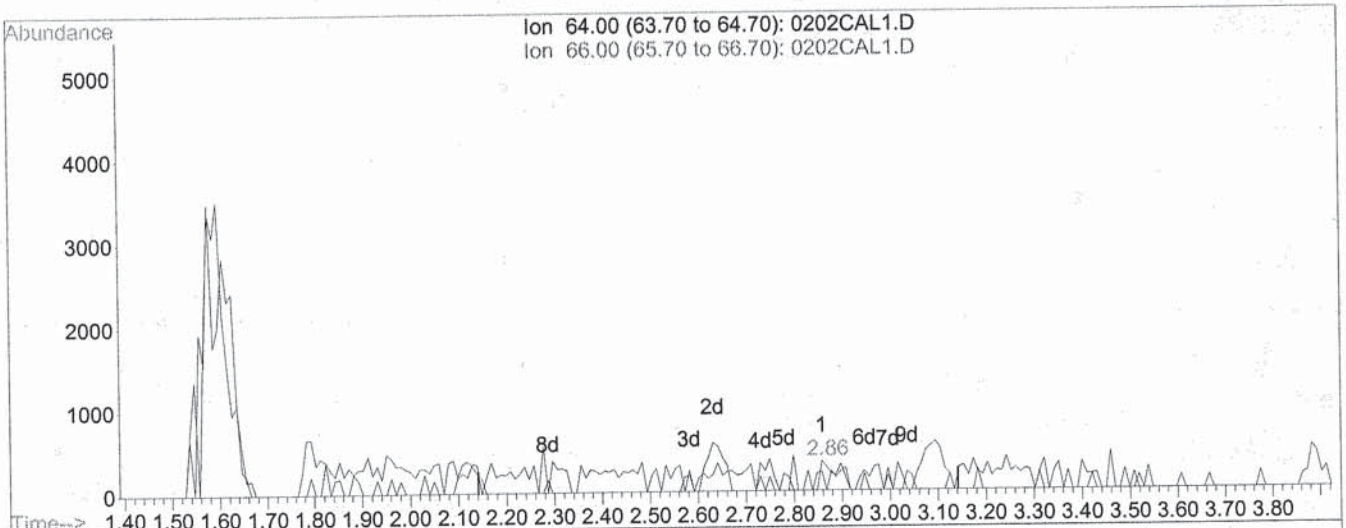
Quantitation Report (Qedit)

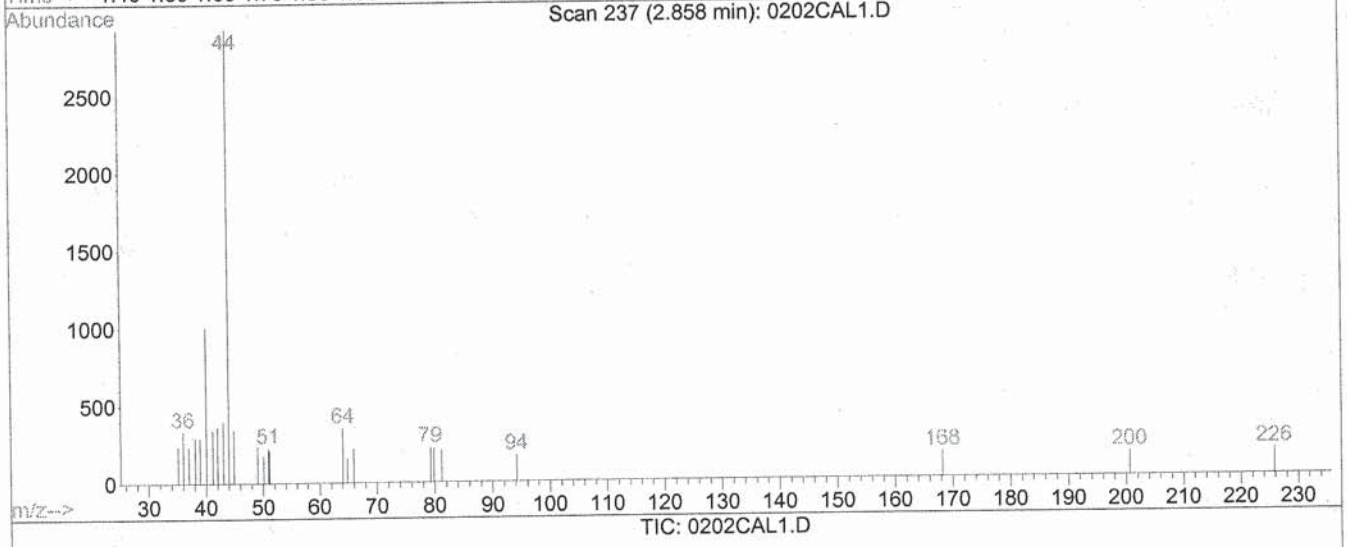
Data File : D:\DATA\020215V6\0202CAL1.D
Acq On : 2 Feb 2015 10:39 am
Sample : SEQ-CAL1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:21 2015

Vial: 3
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:21:31 2015
Response via : Multiple Level Calibration





TIC: 0202CAL1.D

(6) Chloroethane (M)

2.86min 0.33ug/L

response 882

Ion	Exp%	Act%
64.00	100	100
66.00	31.10	28.80
0.00	0.00	0.00
0.00	0.00	0.00

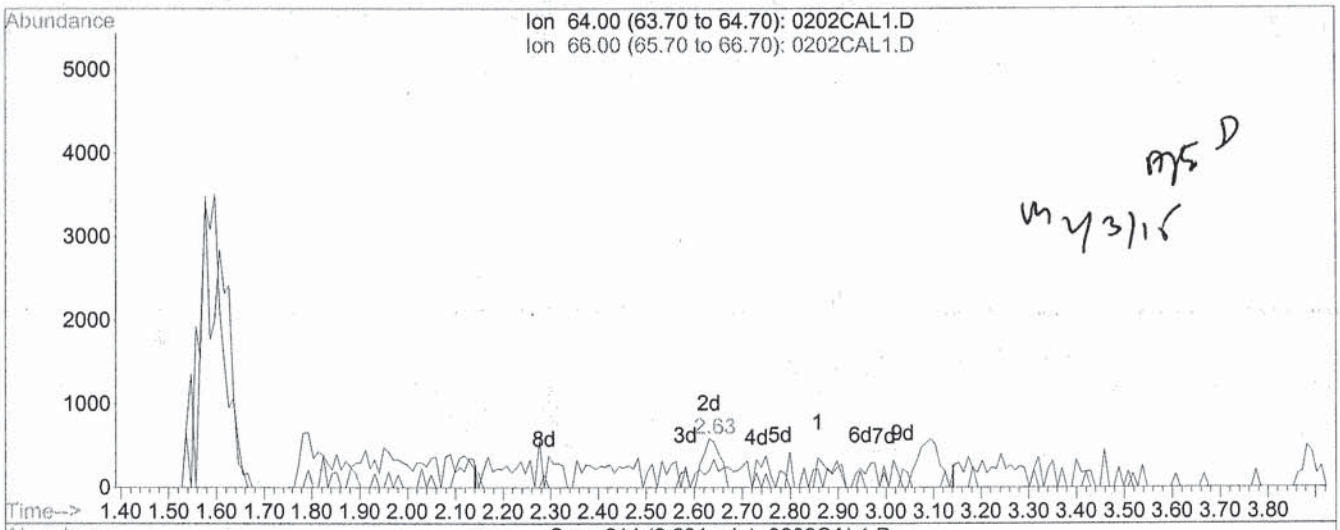
0202CAL1.D 020215W6.M Tue Feb 03 06:26:29 2015

Quantitation Report (Qedit)

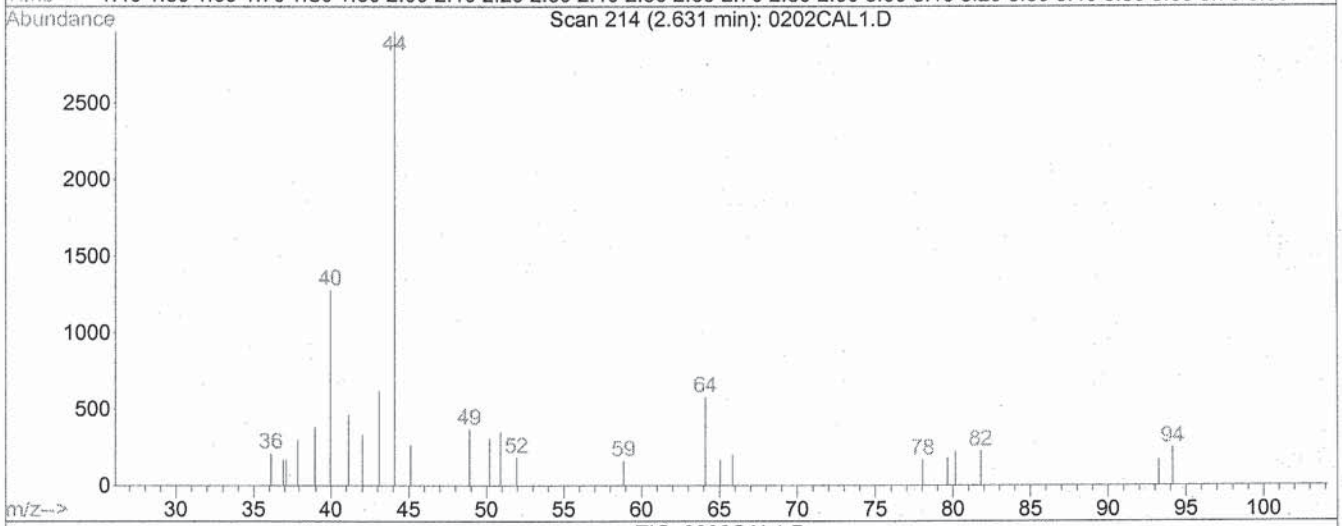
Data File : D:\DATA\020215V6\0202CAL1.D
Acq On : 2 Feb 2015 10:39 am
Sample : SEQ-CAL1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:26 2015

Vial: 3
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:21:31 2015
Response via : Multiple Level Calibration



BJS D
5/3/15



TIC: 0202CAL1.D

(6) Chloroethane (M)

2.63min 0.55ug/L m

response 1478

Ion	Exp%	Act%
64.00	100	100
66.00	31.10	17.19#
0.00	0.00	0.00
0.00	0.00	0.00

02/05/15

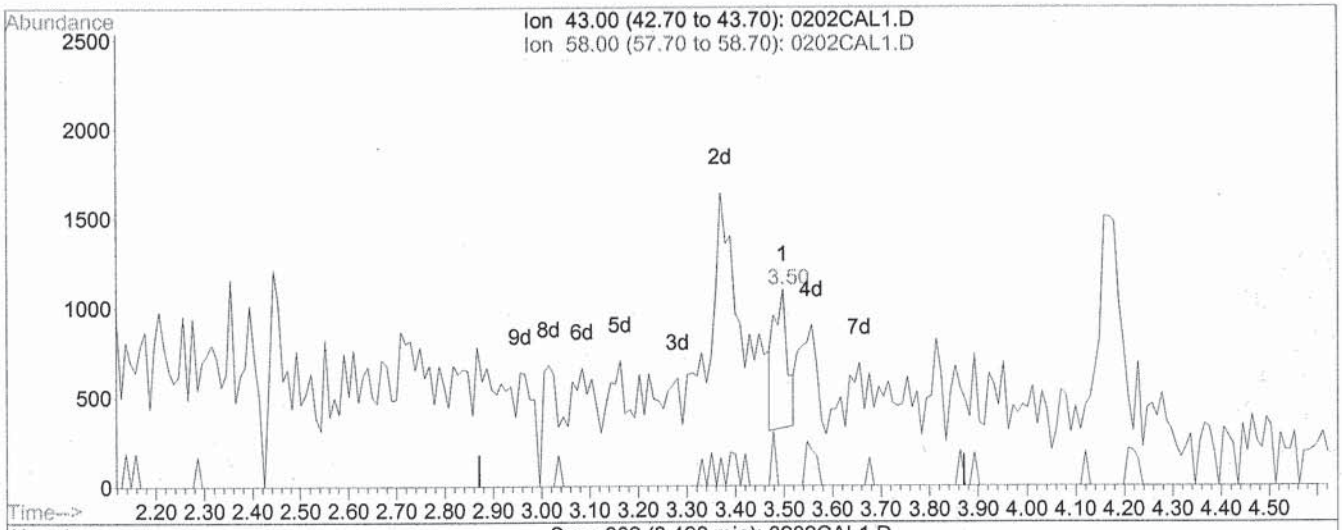
0202CAL1.D 020215W6.M Tue Feb 03 06:26:33 2015

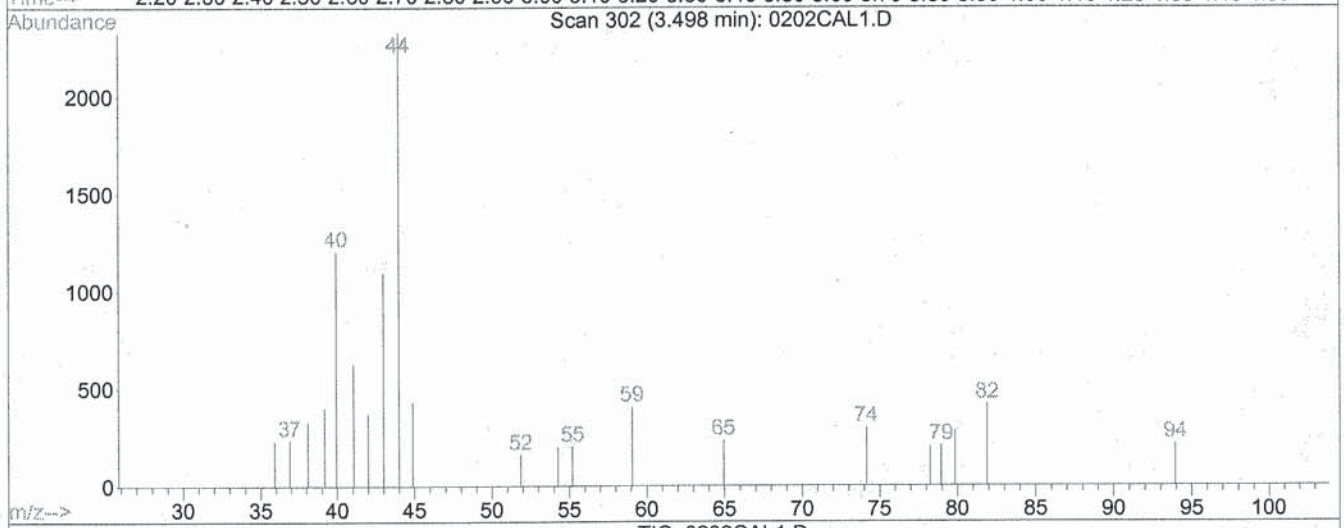
Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL1.D
Acq On : 2 Feb 2015 10:39 am
Sample : SEQ-CAL1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:26 2015

Vial: 3
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:21:31 2015
Response via : Multiple Level Calibration





TIC: 0202CAL1.D

(9) Acetone (M)

3.50min 0.60ug/L

response 1515

Ion	Exp%	Act%
43.00	100	100
58.00	13.70	11.82
0.00	0.00	0.00
0.00	0.00	0.00

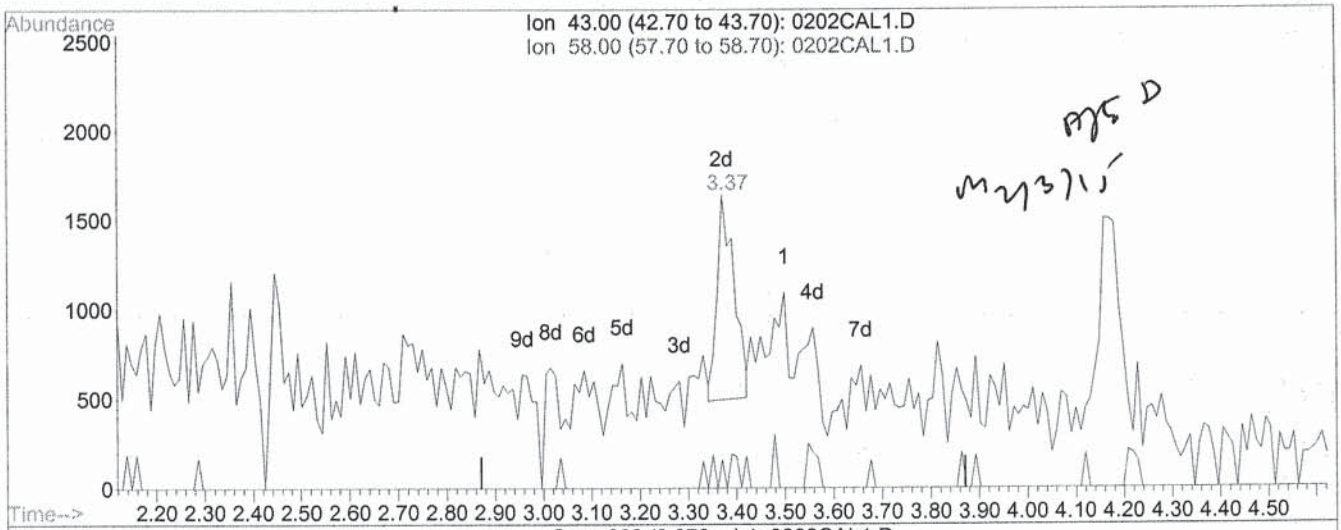
0202CAL1.D 020215W6.M Tue Feb 03 06:26:37 2015

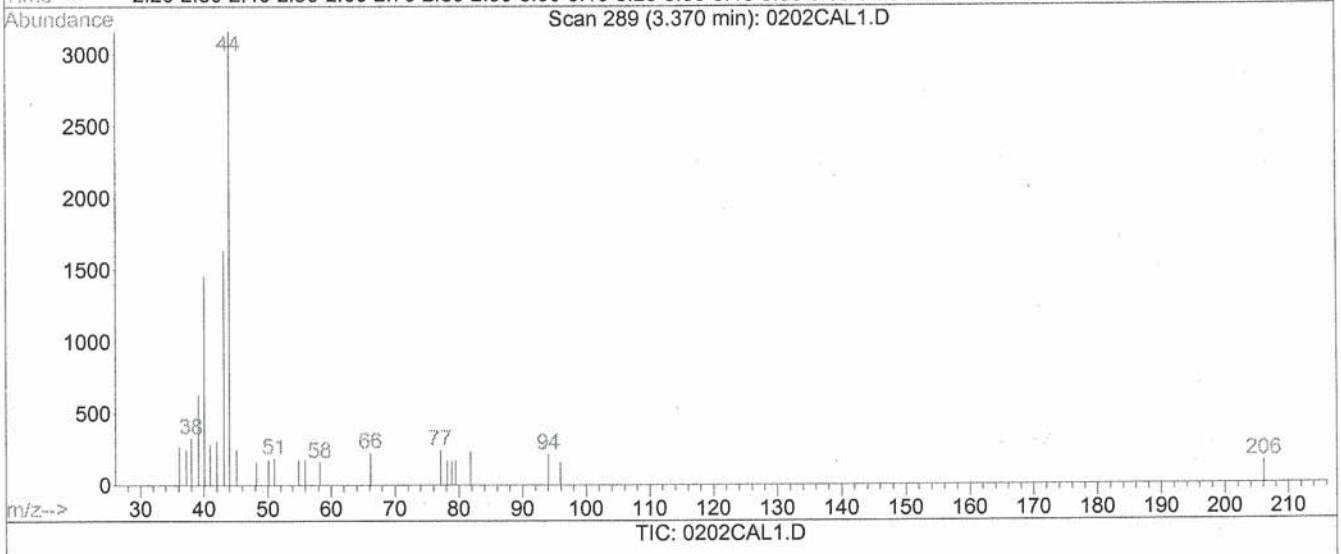
Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL1.D
Acq On : 2 Feb 2015 10:39 am
Sample : SEQ-CAL1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:26 2015

Vial: 3
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:21:31 2015
Response via : Multiple Level Calibration





TIC: 0202CAL1.D

(9) Acetone (M)

3.37min 1.11ug/L m

response 2820

Ion	Exp%	Act%
43.00	100	100
58.00	13.70	6.35#
0.00	0.00	0.00
0.00	0.00	0.00

02/05/15

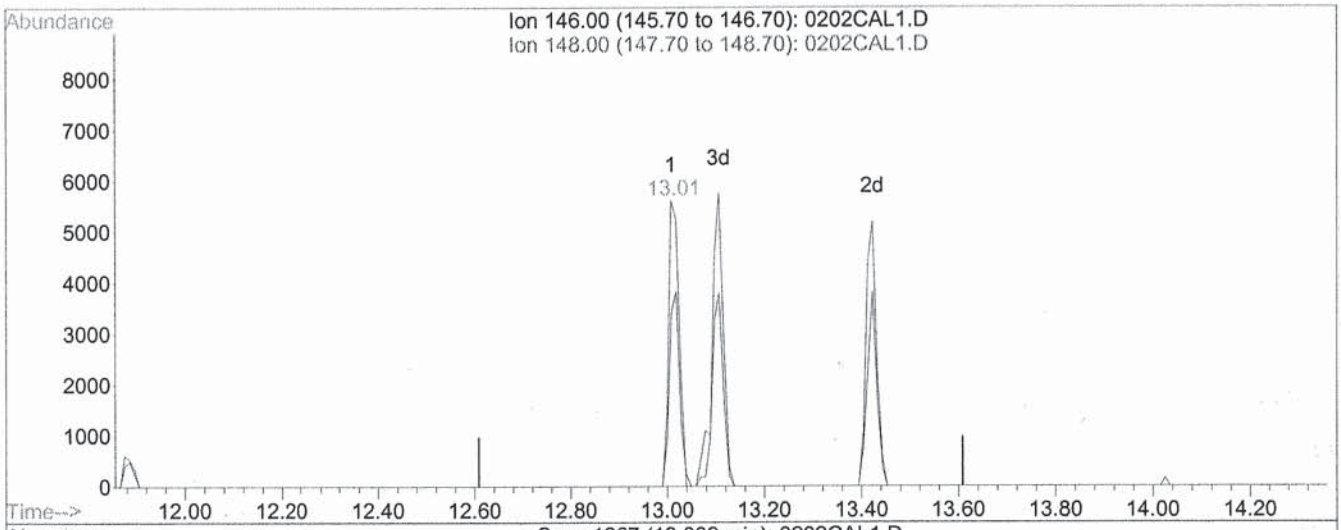
0202CAL1.D 020215W6.M Tue Feb 03 06:26:46 2015

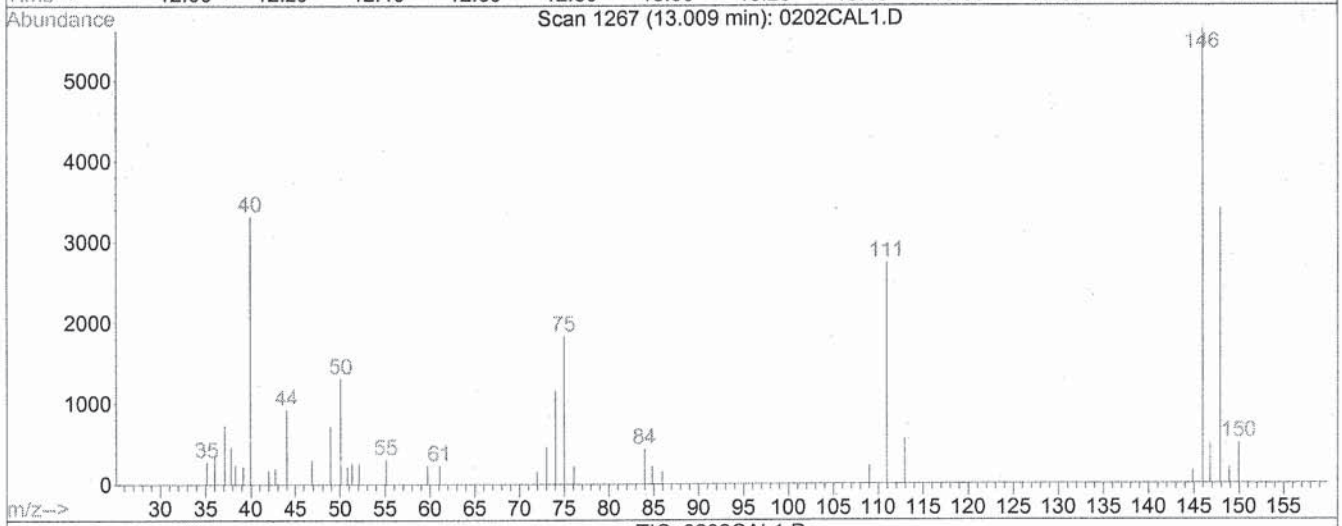
Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL1.D
Acq On : 2 Feb 2015 10:39 am
Sample : SEQ-CAL1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:26 2015

Vial: 3
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:21:31 2015
Response via : Multiple Level Calibration





TIC: 0202CAL1.D

(96) 1,4-Dichlorobenzene (M)

13.01min 0.46ug/L

response 8453

Ion	Exp%	Act%
146.00	100	100
148.00	62.50	67.29
0.00	0.00	0.00
0.00	0.00	0.00

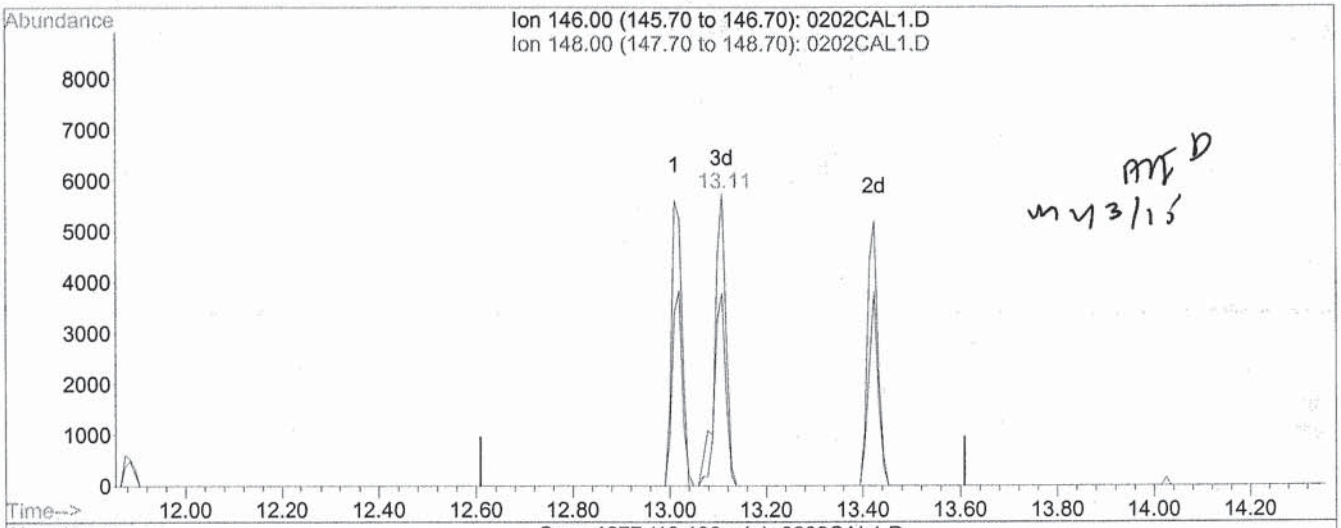
0202CAL1.D 020215W6.M Tue Feb 03 06:27:21 2015

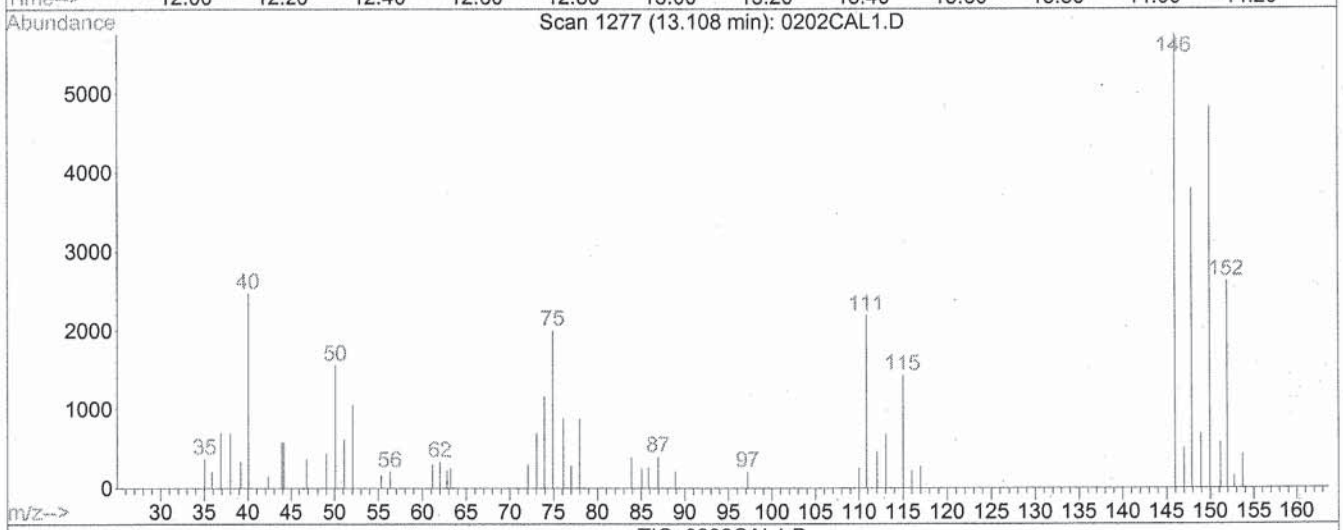
Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL1.D
Acq On : 2 Feb 2015 10:39 am
Sample : SEQ-CAL1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:27 2015

Vial: 3
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:21:31 2015
Response via : Multiple Level Calibration





TIC: 0202CAL1.D

(96) 1,4-Dichlorobenzene (M)

13.11min 0.48ug/L m

response 8681

Ion	Exp%	Act%
146.00	100	100
148.00	62.50	65.52
0.00	0.00	0.00
0.00	0.00	0.00

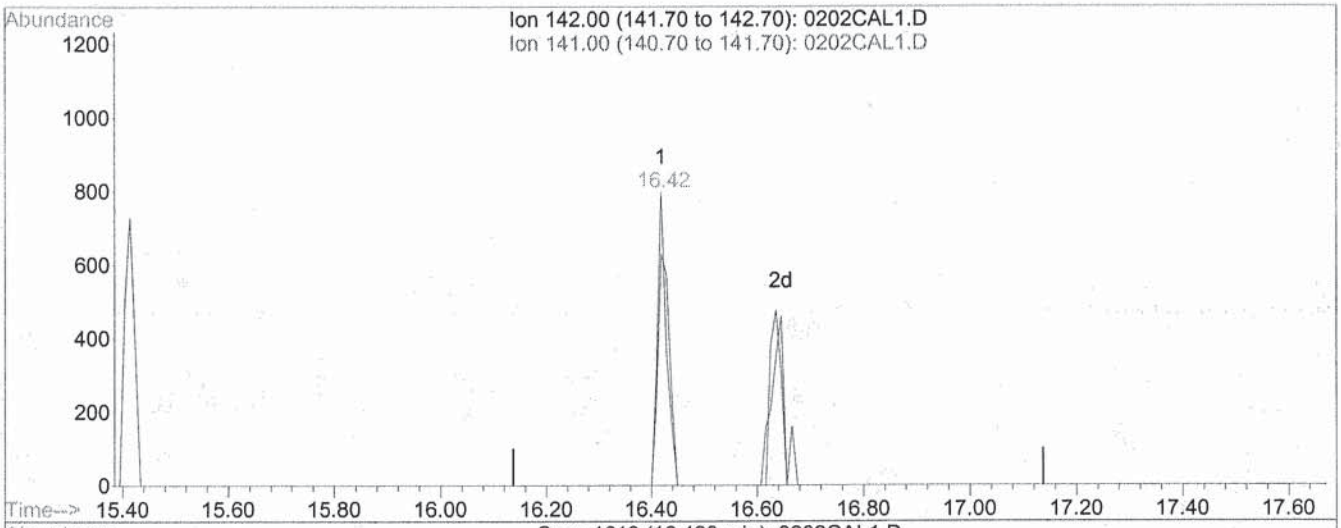
02/05/15

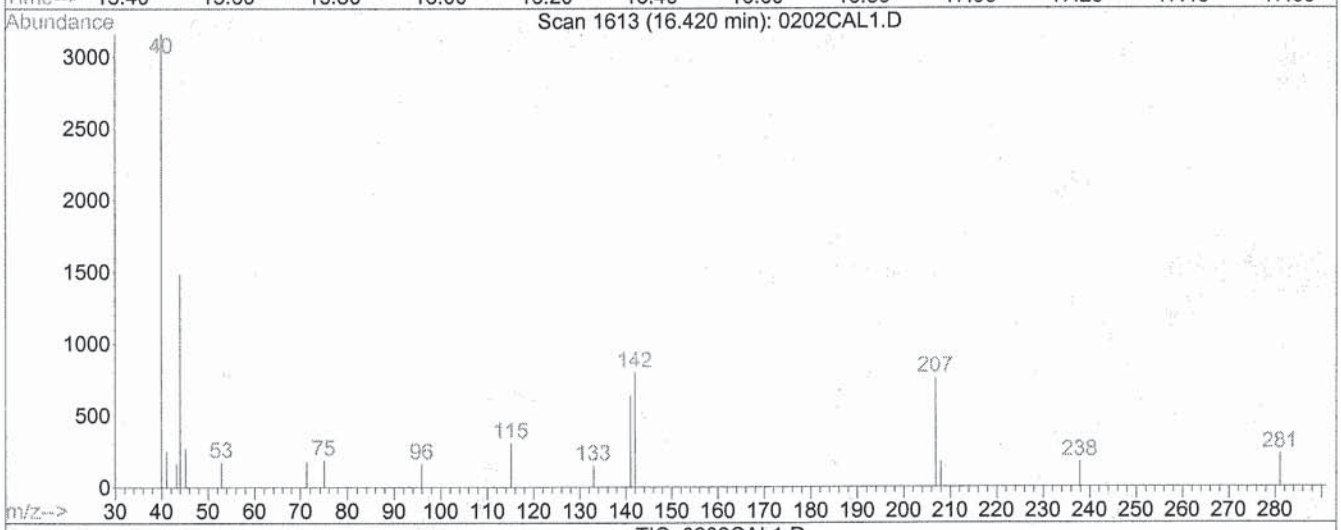
0202CAL1.D 020215W6.M Tue Feb 03 06:27:25 2015

Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL1.D Vial: 3
Acq On : 2 Feb 2015 10:39 am Operator:
Sample : SEQ-CAL1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:27 2015 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:21:31 2015
Response via : Multiple Level Calibration





TIC: 0202CAL1.D

(107) 1-Methylnaphthalene (M)

16.42min 0.12ug/L

response 955

Ion	Exp%	Act%
142.00	100	100
141.00	88.80	102.83
0.00	0.00	0.00
0.00	0.00	0.00

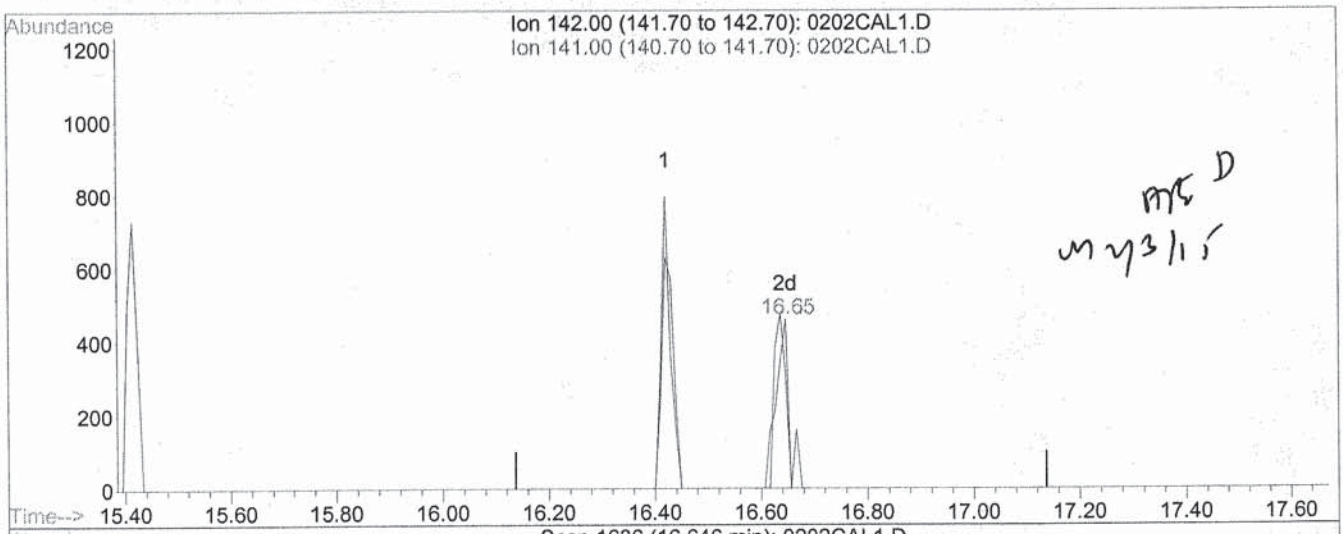
0202CAL1.D 020215W6.M Tue Feb 03 06:27:34 2015

Quantitation Report (Qedit)

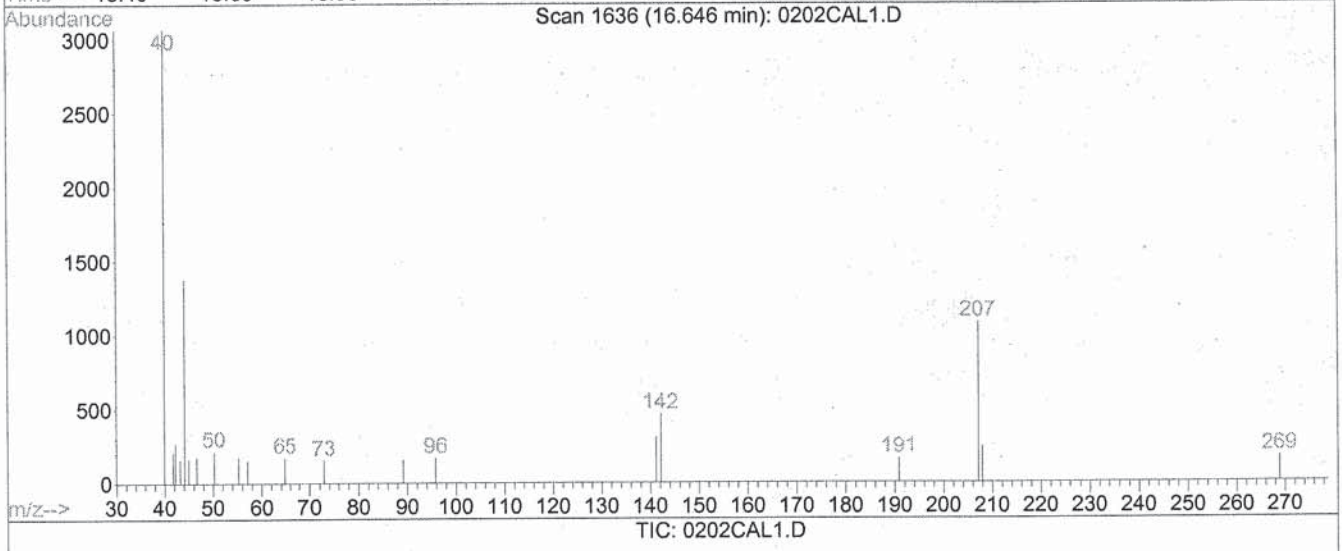
Data File : D:\DATA\020215V6\0202CAL1.D
Acq On : 2 Feb 2015 10:39 am
Sample : SEQ-CAL1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:27 2015

Vial: 3
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:21:31 2015
Response via : Multiple Level Calibration



RTE D
m y 3/15



TIC: 0202CAL1.D

(107) 1-Methylnaphthalene (M)

16.65min 0.09ug/L m

response 697

Ion	Exp%	Act%
142.00	100	100
141.00	88.80	140.89#
0.00	0.00	0.00
0.00	0.00	0.00

02/05/15

0202CAL1.D 020215W6.M Tue Feb 03 06:27:37 2015

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL2.D
Acq On : 2 Feb 2015 11:07 am
Sample : SEQ-CAL2
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:21 2015

Vial: 4
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

02/05/15

Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:20:15 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

mm 3/11

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.57	96	902220	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.69	82	384556	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.08	152	366917	30.00	ug/L	0.00
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	417254	34.85	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 116.17%#			
42) 1,2-Dichloroethane-d4	7.04	102	71096	33.42	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 111.40%			
61) Toluene-d8	9.27	98	962632	34.04	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 113.47%			
82) Bromofluorobenzene	11.89	95	421026	34.30	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 114.33%			

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.78	85	7446	0.6874	ug/L	98
3) Chloromethane	1.97	50	4781	0.9753	ug/L #	68
4) Vinyl chloride	2.11	62	3128	0.8317	ug/L	91
5) Bromomethane	2.50	94	2922	0.7461	ug/L	99
6) Chloroethane	2.64	64	2432	0.9194	ug/L #	25
7) Trichlorofluoromethane	3.09	101	10931	0.7562	ug/L	87
8) Acrolein	3.26	56	2457	5.0955	ug/L #	75
9) Acetone	3.37	43	5872	2.4174	ug/L #	72
10) Acetonitrile	3.44	41	5013	7.6778	ug/L #	29
11) Ethyl Ether	3.48	59	2686	0.7516	ug/L #	75
12) 1,1-Dichloroethene	3.81	96	6645	0.8231	ug/L	92
13) Trichlorotrifluoroethane	3.87	101	7400	0.8092	ug/L	98
14) Iodomethane	4.00	142	9563	0.6070	ug/L	90
15) t-Butyl Alcohol	3.97	59	1979	2.8867	ug/L #	1
16) Methyl Acetate	4.17	43	6093	0.8117	ug/L	99
17) Acrylonitrile	4.18	53	12353	3.6889	ug/L	97
18) Allyl chloride	4.25	76	3284	0.8258	ug/L #	77
19) Methylene chloride	4.31	84	9063	0.9158	ug/L	95
20) Carbon disulfide	4.34	76	22064	0.7233	ug/L #	88
21) trans-1,2-dichloroethene	4.99	96	7554	0.8787	ug/L	88
22) MTBE	5.00	73	18433	0.8156	ug/L #	86
23) 1,1-Dichloroethane	5.37	63	14236	0.8709	ug/L	98
24) Vinyl acetate	5.46	43	28108	1.3292	ug/L	99
25) Propionitrile	5.56	54	7890	6.5856	ug/L #	82
26) Hexane	5.59	57	5607	0.8933	ug/L	89
27) Chloroprene	5.64	53	11547	0.7431	ug/L #	93
28) Di-isopropyl ether	5.77	45	29925	0.8415	ug/L	95
29) 2-Butanone	5.85	43	6110	1.2137	ug/L	96
30) Methacrylonitrile	6.00	41	51067	8.7172	ug/L	89
31) cis-1,2-Dichloroethene	6.10	96	9032	0.9087	ug/L	96
32) Ethyl Acetate	6.23	43	12636	0.9216	ug/L #	93
33) 2,2-Dichloropropane	6.21	77	10646	0.8041	ug/L	97
34) ETBE	6.24	59	23979	0.8444	ug/L	95
35) Chloroform	6.36	83	17040	0.9443	ug/L	99
36) Bromochloromethane	6.39	128	4757	0.8141	ug/L	87
37) Isobutyl alcohol	6.48	42	2104	13.1590	ug/L	84
39) Tetrahydrofuran	6.57	72	920	1.1399	ug/L	91
40) tert-Amyl alcohol	6.75	59	1233	2.5997	ug/L #	51
41) 1,1,1-Trichloroethane	6.93	97	13198	0.8610	ug/L	97

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

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL2.D Vial: 4
Acq On : 2 Feb 2015 11:07 am Operator:
Sample : SEQ-CAL2 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:21 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:20:15 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 1,2-Dichloroethane	7.14	62	12931	0.8235 ug/L		94
44) 1,1-Dichloropropene	7.15	75	10455	0.8490 ug/L		95
45) Cyclohexane	7.19	56	10775	0.8959 ug/L		96
46) Carbon tetrachloride	7.26	117	10237	0.7337 ug/L		89
47) Benzene	7.29	78	27919	0.9050 ug/L		97
48) tert- Amyl Methyl Ether	7.50	73	17525	0.7782 ug/L	#	90
49) Trichloroethene	8.07	95	8166	0.8073 ug/L		94
50) 1,2-Dichloropropane	8.12	63	7289	0.8569 ug/L		93
51) Dibromomethane	8.23	93	6786	0.8491 ug/L		97
52) Methyl methacrylate	8.27	41	6262	0.6892 ug/L		99
53) 1,4-Dioxane	8.28	88	1058	12.5420 ug/L	#	74
54) Bromodichloromethane	8.29	83	10834	0.8430 ug/L		95
55) tert- Amyl Ethyl Ether	8.40	59	18579	0.7921 ug/L		95
56) Methyl cyclohexane	8.45	83	7821	0.8908 ug/L	#	62
57) 2-Chloroethyl vinyl ether	8.66	63	8178	1.6931 ug/L		92
58) 4-Methyl-2-pentanone	8.80	43	13782	1.4472 ug/L	#	92
59) cis-1,3-Dichloropropene	8.87	75	11074	0.7968 ug/L		98
62) trans-1,3-Dichloropropene	9.35	75	10546	0.8021 ug/L		97
63) Toluene	9.34	92	17396	1.0037 ug/L		90
64) 1,1,2-Trichloroethane	9.50	83	5521	0.8311 ug/L		95
65) Ethyl methacrylate	9.55	69	6919	0.7280 ug/L		97
66) 2-Hexanone	9.66	43	9906	1.5359 ug/L	#	88
67) 1,3-Dichloropropane	9.71	76	11247	0.9092 ug/L		100
68) Dibromochloromethane	9.97	129	8586	0.7287 ug/L		94
69) Tetrachloroethene	10.07	166	8023	0.8083 ug/L		93
70) 1,2-Dibromoethane	10.17	107	8573	0.8785 ug/L		96
71) 1-Chlorohexane	10.70	91	8479	0.9758 ug/L	#	25
72) Chlorobenzene	10.73	112	18907	0.9079 ug/L		96
73) 1,1,1,2-Tetrachloroethane	10.77	131	6778	0.7611 ug/L	#	1
74) Ethylbenzene	10.88	91	30062	0.8690 ug/L		98
75) m,p-Xylene	10.99	91	46531	1.8123 ug/L		94
76) Styrene	11.35	104	18985	0.9072 ug/L		93
77) o-Xylene	11.37	91	24142	0.9221 ug/L		95
78) Bromoform	11.44	173	5513	0.6526 ug/L		99
79) Cyclohexanone	11.49	55	1534	0.9275 ug/L	#	70
80) Isopropylbenzene	11.78	105	25560	0.8379 ug/L		99
81) 1,2,3-Trichloropropane	11.83	110	2675	0.8478 ug/L	#	1
84) cis-1,4-Dichloro-2-butene	11.54	53	2205	0.5511 ug/L		88
85) 1,1,2,2-Tetrachloroethane	11.70	83	8540	0.8467 ug/L		95
86) trans-1,4-Dichloro-2-buten	11.85	53	1858	0.4996 ug/L	#	1
87) Bromobenzene	12.03	156	8725	0.8123 ug/L		98
88) n-Propylbenzene	12.18	91	29298	0.8276 ug/L		95
89) 2-Chlorotoluene	12.26	91	19157	0.8233 ug/L		98
90) 4-Chlorotoluene	12.32	91	24103	0.8617 ug/L		99
91) 1,3,5-Trimethylbenzene	12.36	105	20628	0.8113 ug/L		98
92) tert-Butylbenzene	12.70	119	17583	0.8197 ug/L		96
93) 1,2,4-Trimethylbenzene	12.72	105	21445	0.7970 ug/L		91
94) sec-Butylbenzene	12.93	105	21429	0.7932 ug/L		95
95) 1,3-Dichlorobenzene	13.01	146	15521	0.9044 ug/L		94
96) 1,4-Dichlorobenzene	13.11	146	15096	0.8509 ug/L		91
97) p-Isopropyltoluene	13.07	119	17845	0.8182 ug/L	#	86
98) 1,2-Dichlorobenzene	13.42	146	13935	0.8270 ug/L		100
99) n-Butylbenzene	13.47	91	17025	0.8281 ug/L		97

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

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL2.D Vial: 4
Acq On : 2 Feb 2015 11:07 am Operator:
Sample : SEQ-CAL2 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:21 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:20:15 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

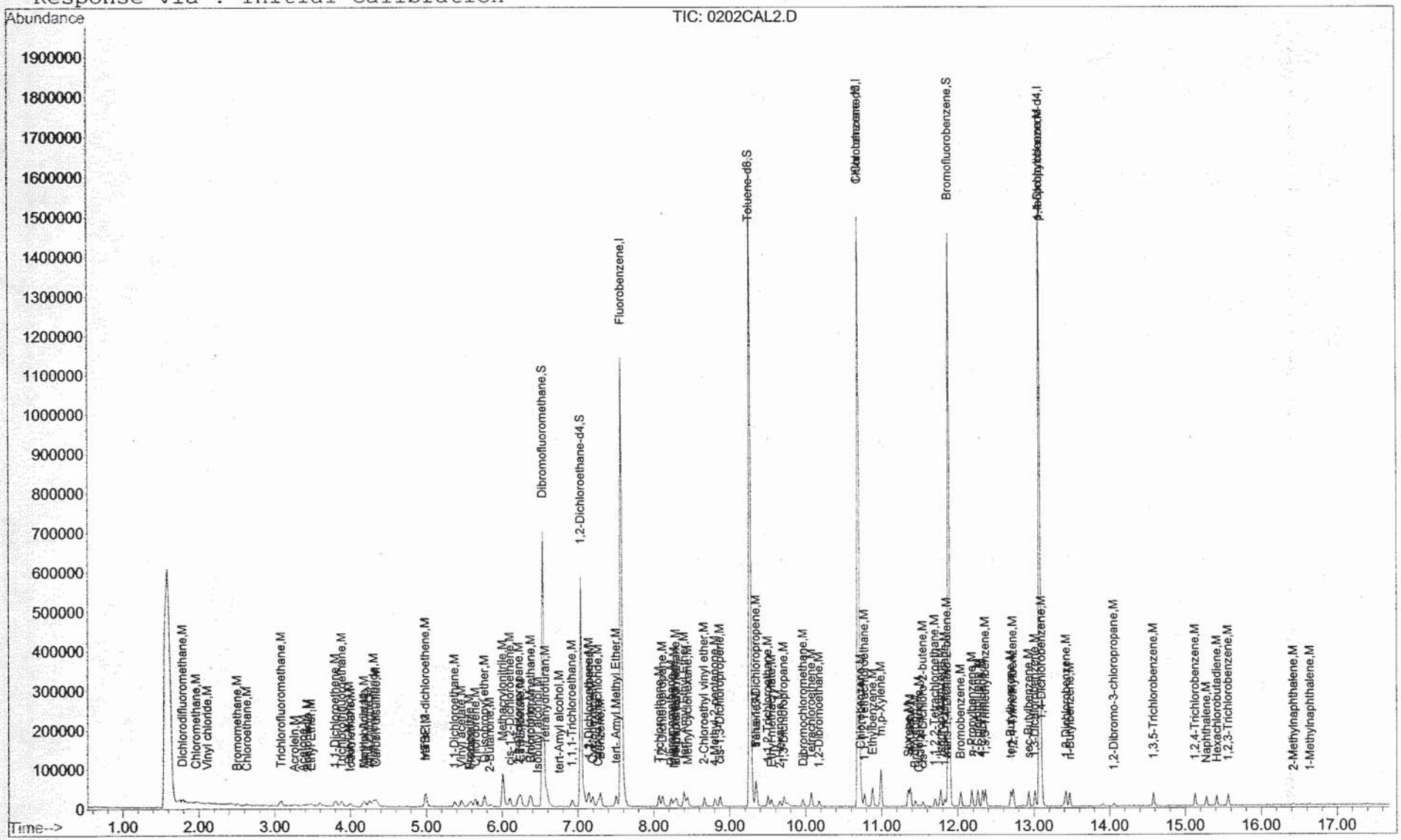
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
100)	1,2-Dibromo-3-chloropropan	14.07	157	1495	0.6736 ug/L	91
101)	1,3,5-Trichlorobenzene	14.58	180	10023	0.8276 ug/L	98
102)	1,2,4-Trichlorobenzene	15.13	180	8887	0.7861 ug/L	96
103)	Naphthalene	15.28	128	16286	0.6924 ug/L	100
104)	Hexachlorobutadiene	15.42	225	4727	0.8733 ug/L	88
105)	1,2,3-Trichlorobenzene	15.56	180	7931	0.7878 ug/L	99
106)	2-Methylnaphthalene	16.42	142	1622	0.1792 ug/L	93
107)	1-Methylnaphthalene	16.64	142	1530m	0.2087 ug/L	

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

Quantitation Report

Data File : D:\DATA\020215V6\0202CAL2.D Vial: 4
Acq On : 2 Feb 2015 11:07 am Operator:
Sample : SEQ-CAL2 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:21 2015 Quant Results File: 020215W6.RES

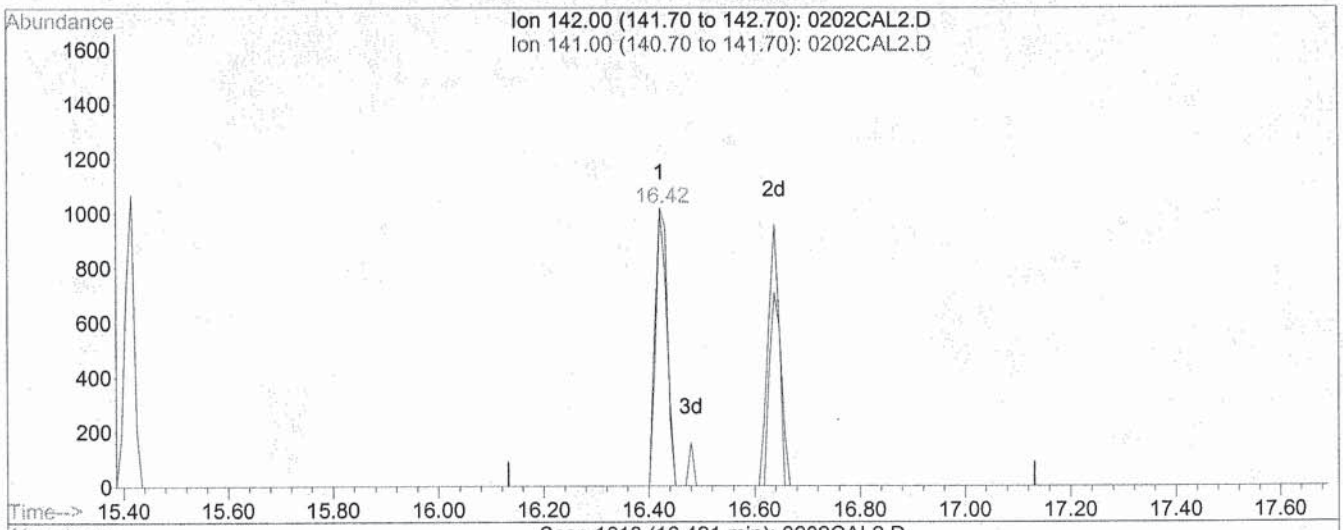
Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:20:15 2015
Response via : Initial Calibration

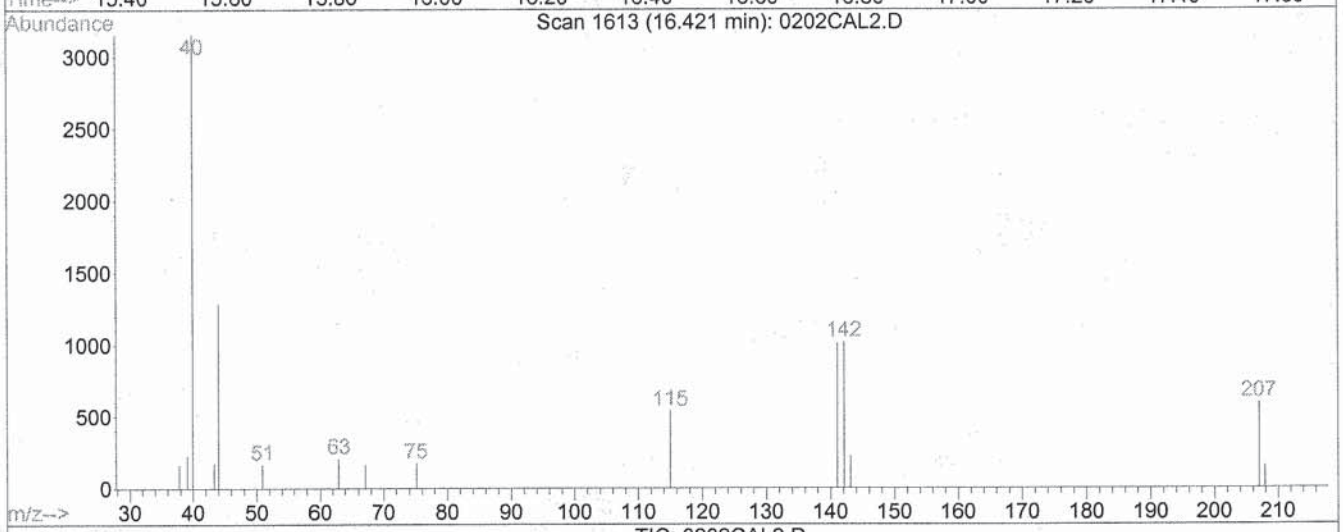


Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL2.D Vial: 4
Acq On : 2 Feb 2015 11:07 am Operator:
Sample : SEQ-CAL2 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:20 2015 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:20:15 2015
Response via : Multiple Level Calibration





TIC: 0202CAL2.D

(107) 1-Methylnaphthalene (M)

16.42min 0.22ug/L

response 1622

Ion	Exp%	Act%
142.00	100	100
141.00	88.80	90.63
0.00	0.00	0.00
0.00	0.00	0.00

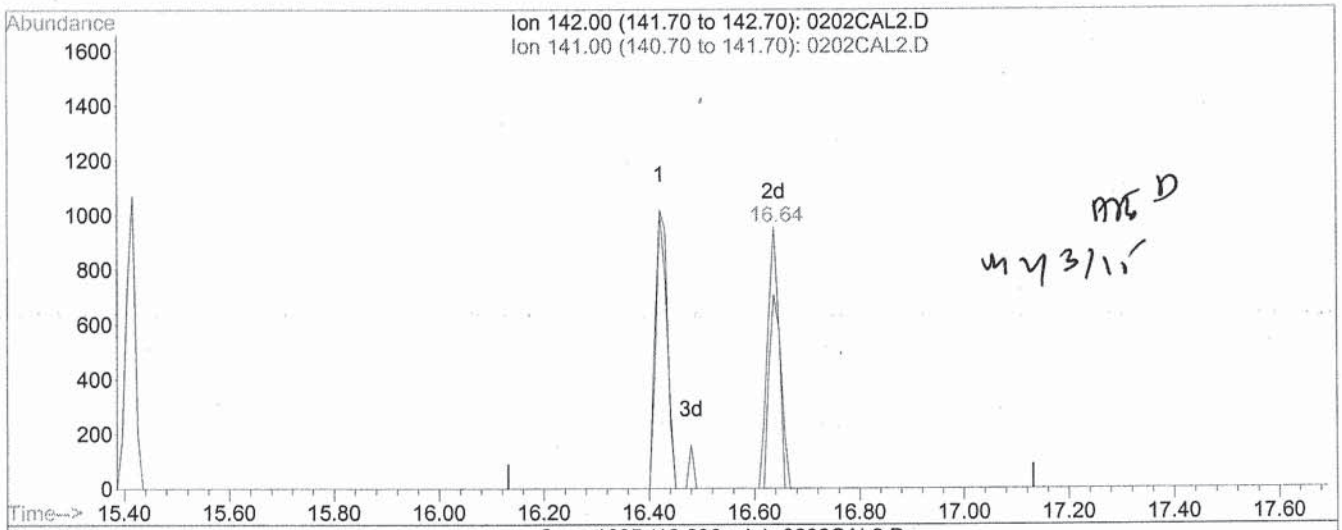
0202CAL2.D 020215W6.M Tue Feb 03 06:21:11 2015

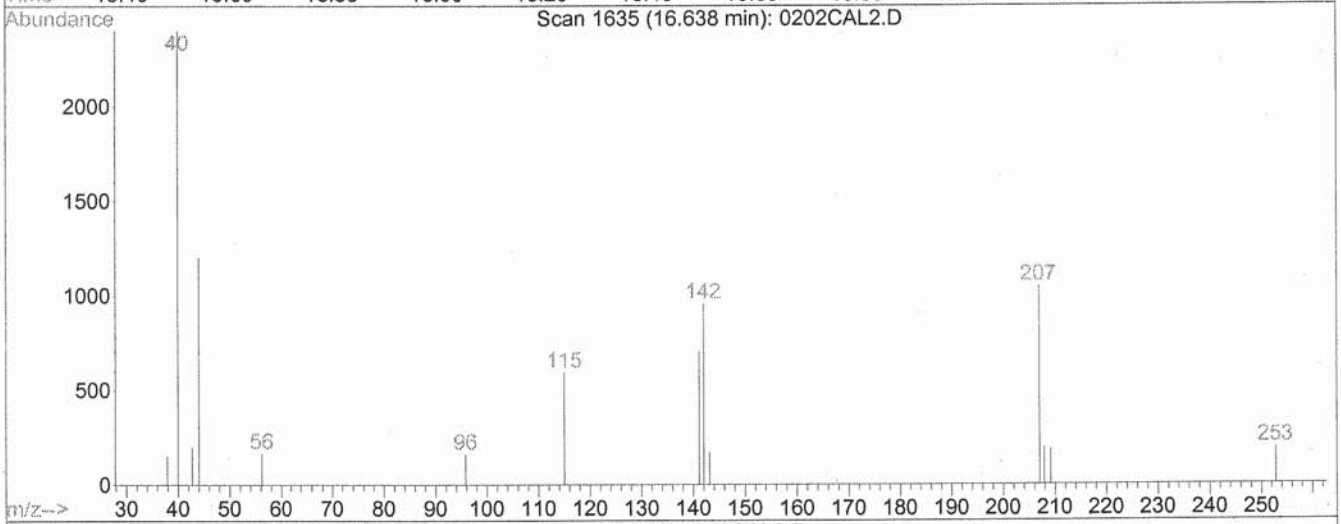
Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL2.D
Acq On : 2 Feb 2015 11:07 am
Sample : SEQ-CAL2
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:21 2015

Vial: 4
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:20:15 2015
Response via : Multiple Level Calibration





TIC: 0202CAL2.D

(107) 1-Methylnaphthalene (M)

16.64min 0.21ug/L m

response 1530

Ion	Exp%	Act%
142.00	100	100
141.00	88.80	96.08
0.00	0.00	0.00
0.00	0.00	0.00

02/05/15

0202CAL2.D 020215W6.M Tue Feb 03 06:21:14 2015

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL3.D
Acq On : 2 Feb 2015 11:34 am
Sample : SEQ-CAL3
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:50 2015

Vial: 5
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

02/05/15

Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:18:38 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.58	96	874855	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.69	82	373114	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.07	152	357372	30.00	ug/L	0.00
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	467244	40.55	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 135.17%#			
42) 1,2-Dichloroethane-d4	7.04	102	82410	40.08	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 133.60%#			
61) Toluene-d8	9.27	98	1079125	39.32	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 131.07%#			
82) Bromofluorobenzene	11.88	95	460863	38.72	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 129.07%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.78	85	16740	1.6306	ug/L	100
3) Chloromethane	1.98	50	7940	1.6851	ug/L #	74
4) Vinyl chloride	2.12	62	6538	1.8258	ug/L	96
5) Bromomethane	2.51	94	6681	1.7862	ug/L	92
6) Chloroethane	2.64	64	5415m	2.1063	ug/L	
7) Trichlorofluoromethane	3.09	101	27036m	1.9839	ug/L	
8) Acrolein	3.27	56	4703m	10.0415	ug/L	
9) Acetone	3.38	43	7964	3.3847	ug/L #	90
10) Acetonitrile	3.44	41	11518m	17.9226	ug/L	
11) Ethyl Ether	3.48	59	5208	1.2720	ug/L #	86
12) 1,1-Dichloroethene	3.81	96	15142	1.9338	ug/L	89
13) Trichlorotrifluoroethane	3.89	101	15925	1.7982	ug/L	97
14) Iodomethane	4.00	142	21999	1.4441	ug/L	99
15) t-Butyl Alcohol	3.96	59	3983	5.6885	ug/L #	71
16) Methyl Acetate	4.17	43	15001	2.0258	ug/L	93
17) Acrylonitrile	4.17	53	27925	8.3172	ug/L	93
18) Allyl chloride	4.25	76	7662	1.9609	ug/L #	81
19) Methylene chloride	4.30	84	18903	1.9267	ug/L	98
20) Carbon disulfide	4.34	76	55775	1.8935	ug/L	99
21) trans-1,2-dichloroethene	4.99	96	15914	1.8863	ug/L	91
22) MTBE	4.99	73	39239	1.7789	ug/L	92
23) 1,1-Dichloroethane	5.38	63	30254	1.8980	ug/L	96
24) Vinyl acetate	5.47	43	58341	2.7207	ug/L	98
25) Propionitrile	5.56	54	20231	17.0852	ug/L #	90
26) Hexane	5.59	57	11567	1.8701	ug/L	93
27) Chloroprene	5.64	53	29799	2.0093	ug/L	91
28) Di-isopropyl ether	5.77	45	64033	1.8170	ug/L	99
29) 2-Butanone	5.84	43	14035	2.7396	ug/L #	87
30) Methacrylonitrile	6.01	41	112235	19.2515	ug/L #	85
31) cis-1,2-Dichloroethene	6.11	96	18697	1.9150	ug/L	92
32) Ethyl Acetate	6.22	43	24643	1.8574	ug/L	98
33) 2,2-Dichloropropane	6.22	77	24736	1.9317	ug/L	98
34) ETBE	6.24	59	52670	1.8865	ug/L	96
35) Chloroform	6.36	83	34211	1.9546	ug/L	96
36) Bromochloromethane	6.38	128	10794	1.8765	ug/L	96
37) Isobutyl alcohol	6.47	42	3730	21.8199	ug/L	89
39) Tetrahydrofuran	6.58	72	1132	1.3556	ug/L #	3
40) tert-Amyl alcohol	6.76	59	2183	4.3806	ug/L #	1
41) 1,1,1-Trichloroethane	6.92	97	27162	1.8376	ug/L	99

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

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL3.D Vial: 5
Acq On : 2 Feb 2015 11:34 am Operator:
Sample : SEQ-CAL3 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:50 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:18:38 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloroethane	7.13	62	27878	1.8490	ug/L		97
44)	1,1-Dichloropropene	7.15	75	23209	1.9363	ug/L		97
45)	Cyclohexane	7.19	56	22496	1.9178	ug/L		94
46)	Carbon tetrachloride	7.27	117	21689	1.6052	ug/L		96
47)	Benzene	7.30	78	58968	1.9601	ug/L		99
48)	tert- Amyl Methyl Ether	7.50	73	39856	1.8035	ug/L		97
49)	Trichloroethene	8.07	95	17964	1.8291	ug/L		99
50)	1,2-Dichloropropane	8.12	63	16523	1.9806	ug/L		94
51)	Dibromomethane	8.24	93	14969	1.9536	ug/L		96
52)	Methyl methacrylate	8.27	41	14773	1.6412	ug/L		99
53)	1,4-Dioxane	8.28	88	3259	39.9894	ug/L	#	82
54)	Bromodichloromethane	8.29	83	22190	1.7811	ug/L		99
55)	tert- Amyl Ethyl Ether	8.39	59	39650	1.7012	ug/L		95
56)	Methyl cyclohexane	8.44	83	17184	2.0218	ug/L		98
57)	2-Chloroethyl vinyl ether	8.67	63	18681	4.0643	ug/L		99
58)	4-Methyl-2-pentanone	8.81	43	29207	3.0292	ug/L	#	89
59)	cis-1,3-Dichloropropene	8.88	75	23825	1.7206	ug/L		90
62)	trans-1,3-Dichloropropene	9.35	75	21759	1.6694	ug/L		95
63)	Toluene	9.35	92	34584	2.0329	ug/L		99
64)	1,1,2-Trichloroethane	9.51	83	12234	1.8780	ug/L		97
65)	Ethyl methacrylate	9.55	69	14309	1.4877	ug/L		96
66)	2-Hexanone	9.65	43	21633	3.3542	ug/L	#	94
67)	1,3-Dichloropropane	9.71	76	23477	1.9288	ug/L		93
68)	Dibromochloromethane	9.96	129	18902	1.6395	ug/L		97
69)	Tetrachloroethene	10.08	166	18180	1.8623	ug/L		98
70)	1,2-Dibromoethane	10.18	107	17106	1.7931	ug/L		96
71)	1-Chlorohexane	10.71	91	18239	2.1461	ug/L	#	72
72)	Chlorobenzene	10.73	112	40717	1.9928	ug/L	#	86
73)	1,1,1,2-Tetrachloroethane	10.78	131	14434	1.6409	ug/L	#	92
74)	Ethylbenzene	10.88	91	64644	1.9228	ug/L		96
75)	m,p-Xylene	11.00	91	96288	3.8315	ug/L		91
76)	Styrene	11.35	104	39137	1.8975	ug/L		96
77)	o-Xylene	11.38	91	50399	1.9702	ug/L		90
78)	Bromoform	11.45	173	13596	1.6641	ug/L		95
79)	Cyclohexanone	11.50	55	2632	1.2613	ug/L	#	81
80)	Isopropylbenzene	11.77	105	57172	1.9189	ug/L		99
81)	1,2,3-Trichloropropane	11.83	110	5079	1.6451	ug/L	#	50
84)	cis-1,4-Dichloro-2-butene	11.55	53	5341	1.3471	ug/L		90
85)	1,1,2,2-Tetrachloroethane	11.70	83	18021	1.8284	ug/L		98
86)	trans-1,4-Dichloro-2-buten	11.85	53	5255	1.4446	ug/L	#	1
87)	Bromobenzene	12.04	156	18372	1.7378	ug/L		99
88)	n-Propylbenzene	12.18	91	61715	1.7875	ug/L		96
89)	2-Chlorotoluene	12.26	91	41562	1.8283	ug/L		94
90)	4-Chlorotoluene	12.33	91	50403	1.8566	ug/L		98
91)	1,3,5-Trimethylbenzene	12.37	105	45042	1.8179	ug/L		95
92)	tert-Butylbenzene	12.70	119	37497	1.7901	ug/L		96
93)	1,2,4-Trimethylbenzene	12.73	105	49415	1.8941	ug/L		97
94)	sec-Butylbenzene	12.94	105	47756	1.8141	ug/L		95
95)	1,3-Dichlorobenzene	13.02	146	31630	1.8887	ug/L		99
96)	1,4-Dichlorobenzene	13.10	146	32352	1.8595	ug/L		98
97)	p-Isopropyltoluene	13.07	119	37478	1.7625	ug/L		95
98)	1,2-Dichlorobenzene	13.42	146	29173	1.7673	ug/L		92
99)	n-Butylbenzene	13.47	91	36792	1.8412	ug/L		100

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

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL3.D
Acq On : 2 Feb 2015 11:34 am
Sample : SEQ-CAL3
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:50 2015

Vial: 5
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:18:38 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
100)	1,2-Dibromo-3-chloropropan	14.06	157	3129	1.4228	ug/L	98
101)	1,3,5-Trichlorobenzene	14.58	180	21972	1.8623	ug/L	96
102)	1,2,4-Trichlorobenzene	15.13	180	18635	1.6821	ug/L	98
103)	Naphthalene	15.28	128	35910	1.5508	ug/L	100
104)	Hexachlorobutadiene	15.41	225	8843	1.6768	ug/L	96
105)	1,2,3-Trichlorobenzene	15.57	180	16830	1.7070	ug/L	97
106)	2-Methylnaphthalene	16.43	142	3231	0.3617	ug/L	95
107)	1-Methylnaphthalene	16.63	142	2440	0.3368	ug/L	87

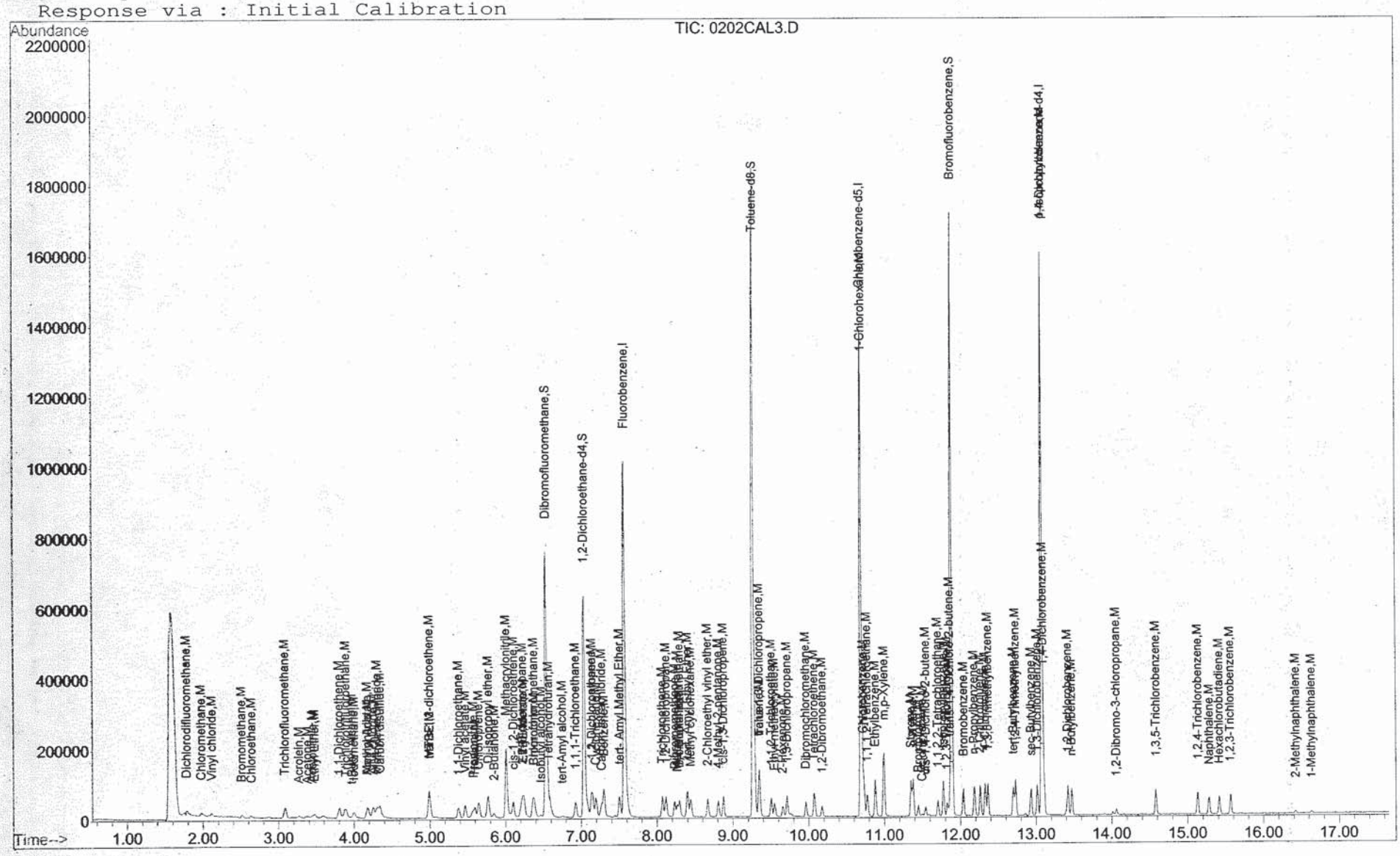
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\DATA\020215V6\0202CAL3.D
Acq On : 2 Feb 2015 11:34 am
Sample : SEQ-CAL3
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:50 2015

Vial: 5
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: 020215W6.RES

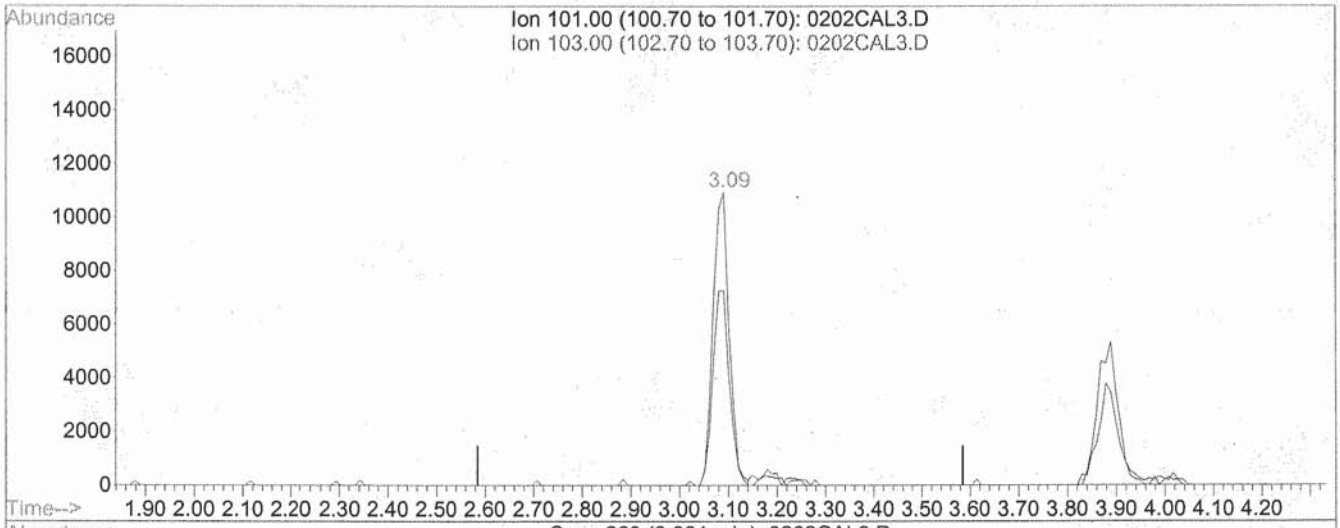
Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:48:19 2015
Response via : Initial Calibration

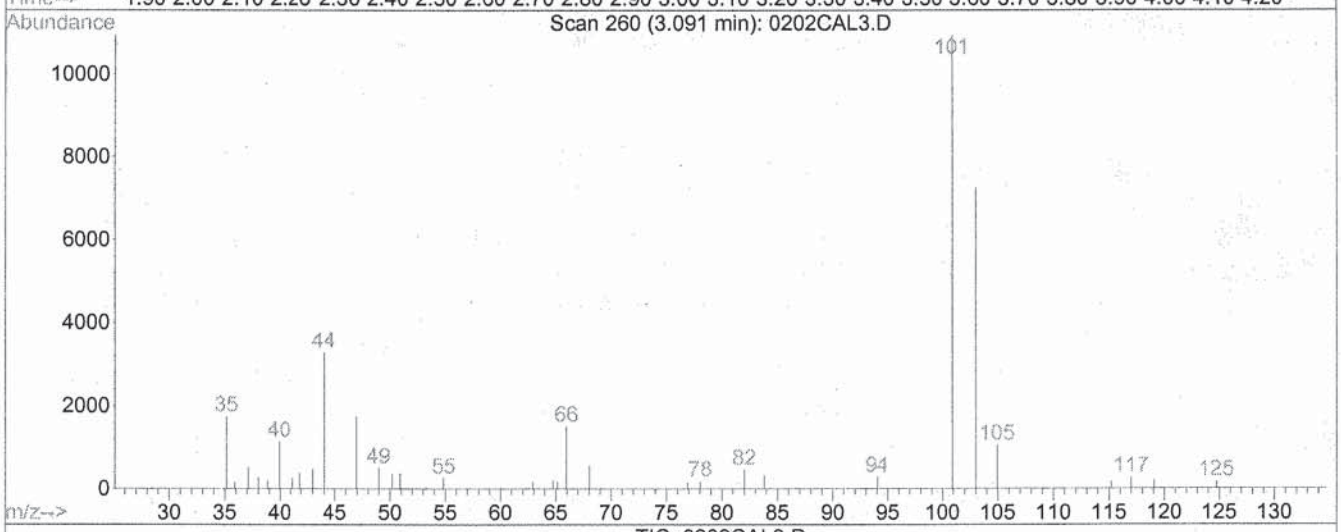


Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL3.D Vial: 5
Acq On : 2 Feb 2015 11:34 am Operator:
Sample : SEQ-CAL3 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:19 2015 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:42:32 2015
Response via : Multiple Level Calibration





TIC: 0202CAL3.D

(7) Trichlorofluoromethane (M)

3.09min 1.83ug/L

response 24948

Ion	Exp%	Act%
101.00	100	100
103.00	66.20	68.88
0.00	0.00	0.00
0.00	0.00	0.00

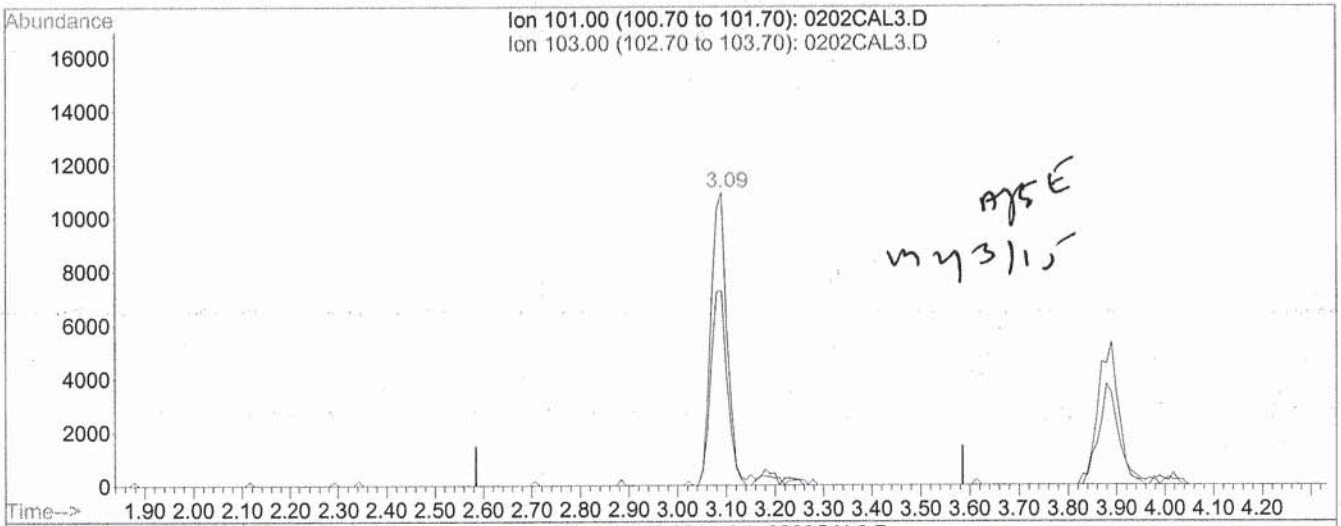
0202CAL3.D 020215W6.M Tue Feb 03 06:50:35 2015

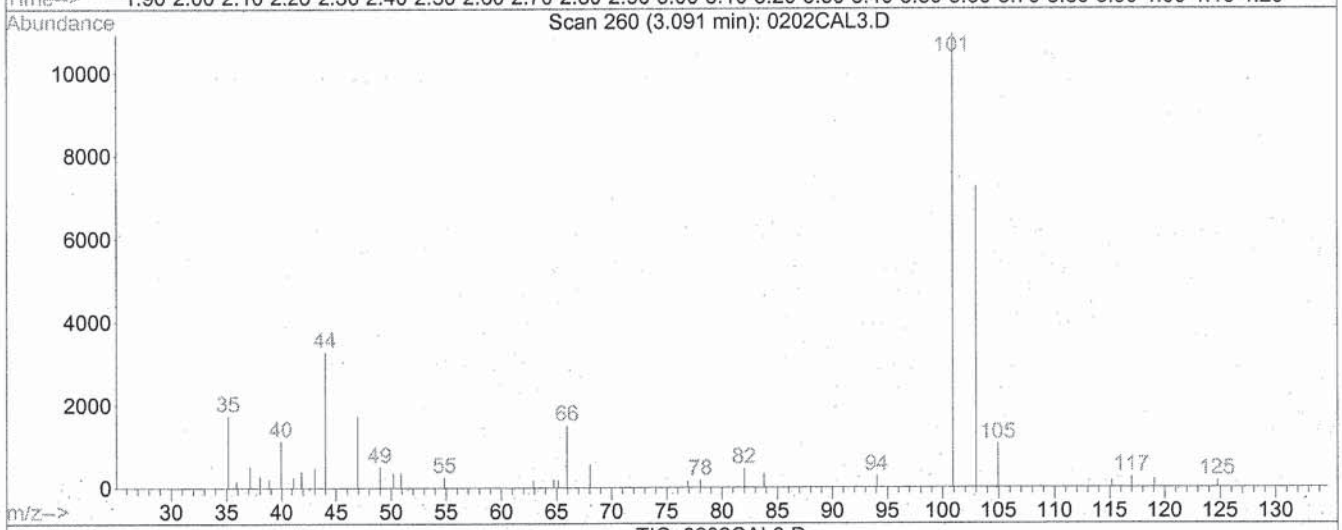
Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL3.D
Acq On : 2 Feb 2015 11:34 am
Sample : SEQ-CAL3
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:50 2015

Vial: 5
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:42:32 2015
Response via : Multiple Level Calibration





TIC: 0202CAL3.D

(7) Trichlorofluoromethane (M)

3.09min 1.98ug/L m

response 27036

Ion	Exp%	Act%
101.00	100	100
103.00	66.20	63.56
0.00	0.00	0.00
0.00	0.00	0.00

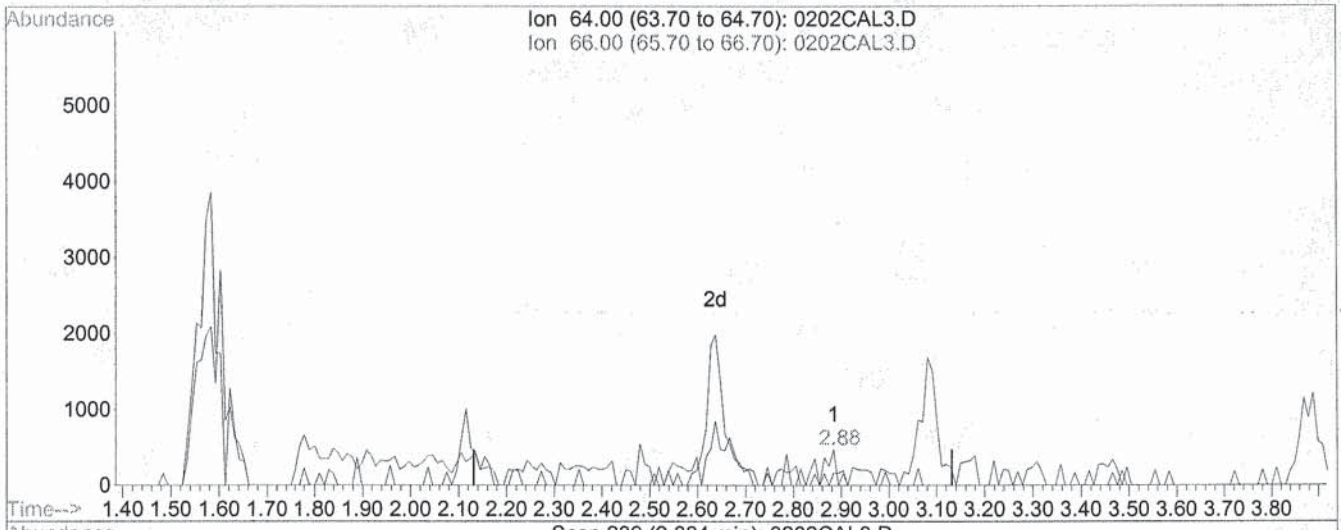
02/05/15

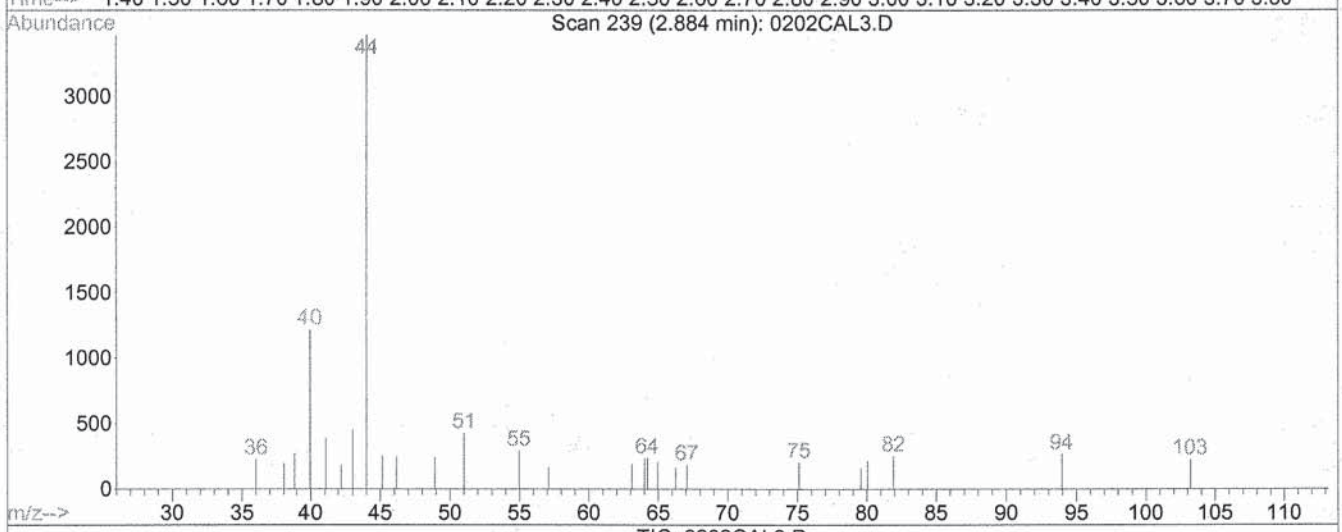
0202CAL3.D 020215W6.M Tue Feb 03 06:50:40 2015

Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL3.D Vial: 5
Acq On : 2 Feb 2015 11:34 am Operator:
Sample : SEQ-CAL3 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:18 2015 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:18:38 2015
Response via : Multiple Level Calibration





TIC: 0202CAL3.D

(6) Chloroethane (M)

2.88min 0.32ug/L

response 822

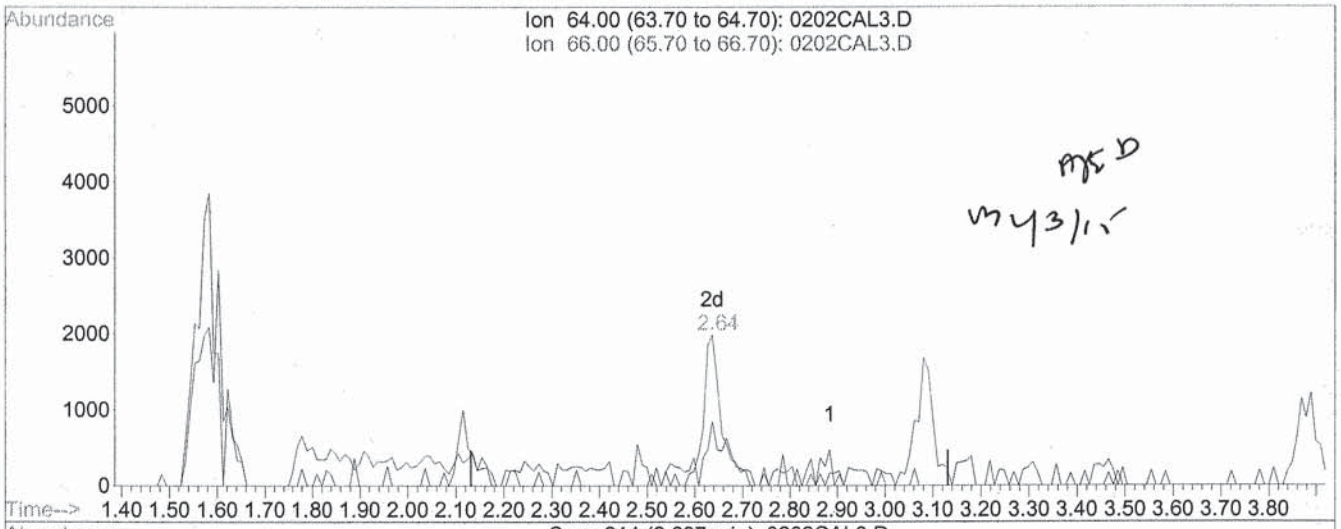
Ion	Exp%	Act%
64.00	100	100
66.00	31.10	36.98
0.00	0.00	0.00
0.00	0.00	0.00

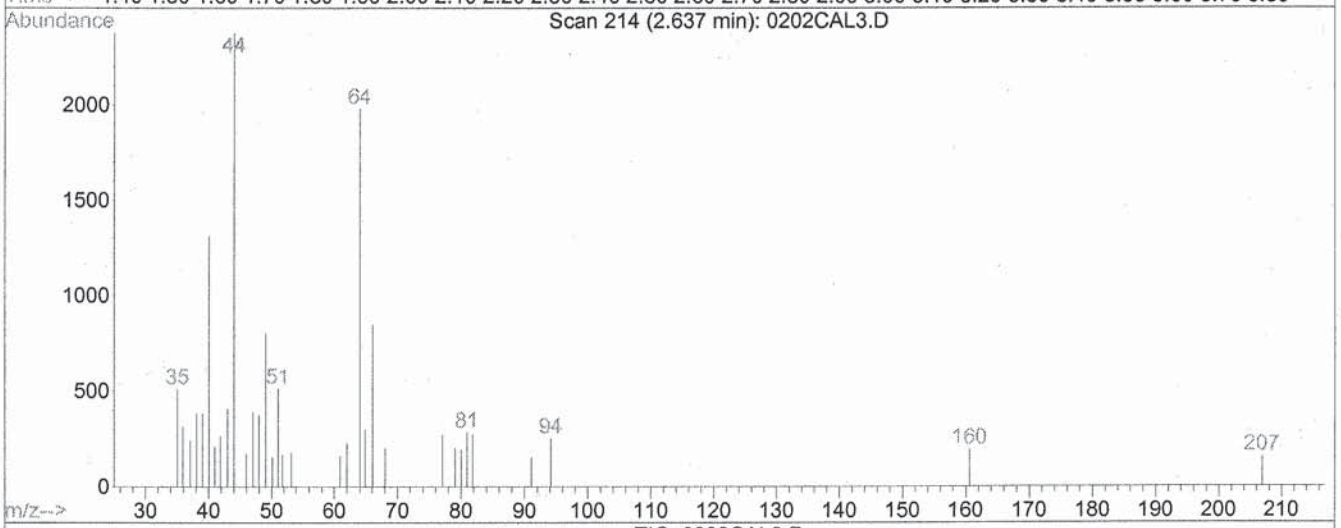
0202CAL3.D 020215W6.M Tue Feb 03 06:18:58 2015

Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL3.D Vial: 5
Acq On : 2 Feb 2015 11:34 am Operator:
Sample : SEQ-CAL3 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:19 2015 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:18:38 2015
Response via : Multiple Level Calibration





TIC: 0202CAL3.D

(6) Chloroethane (M)

2.64min 2.11ug/L m

response 5415

Ion	Exp%	Act%
64.00	100	100
66.00	31.10	5.61#
0.00	0.00	0.00
0.00	0.00	0.00

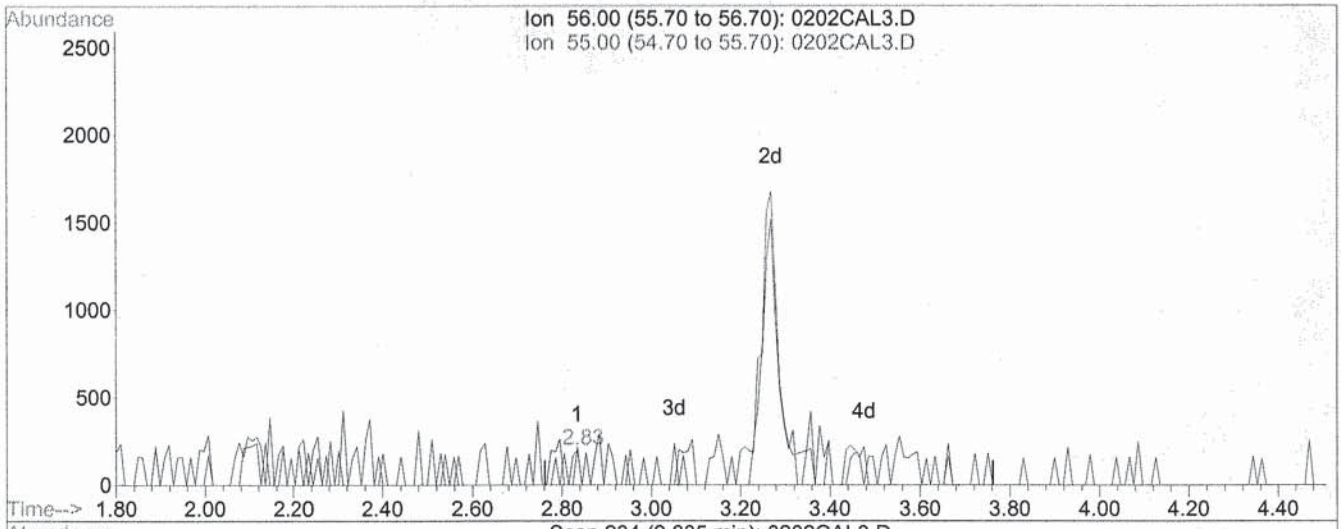
02/05/15

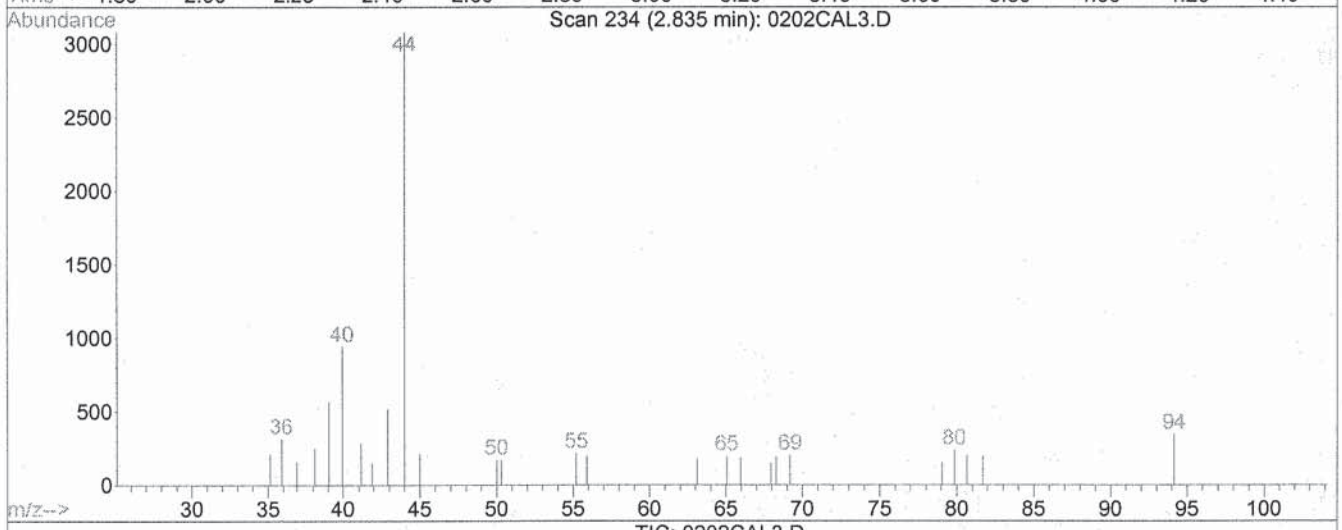
0202CAL3.D 020215W6.M Tue Feb 03 06:19:02 2015

Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL3.D Vial: 5
Acq On : 2 Feb 2015 11:34 am Operator:
Sample : SEQ-CAL3 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:19 2015 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:18:38 2015
Response via : Multiple Level Calibration





TIC: 0202CAL3.D

(8) Acrolein (M)

2.83min 0.69ug/L

response 321

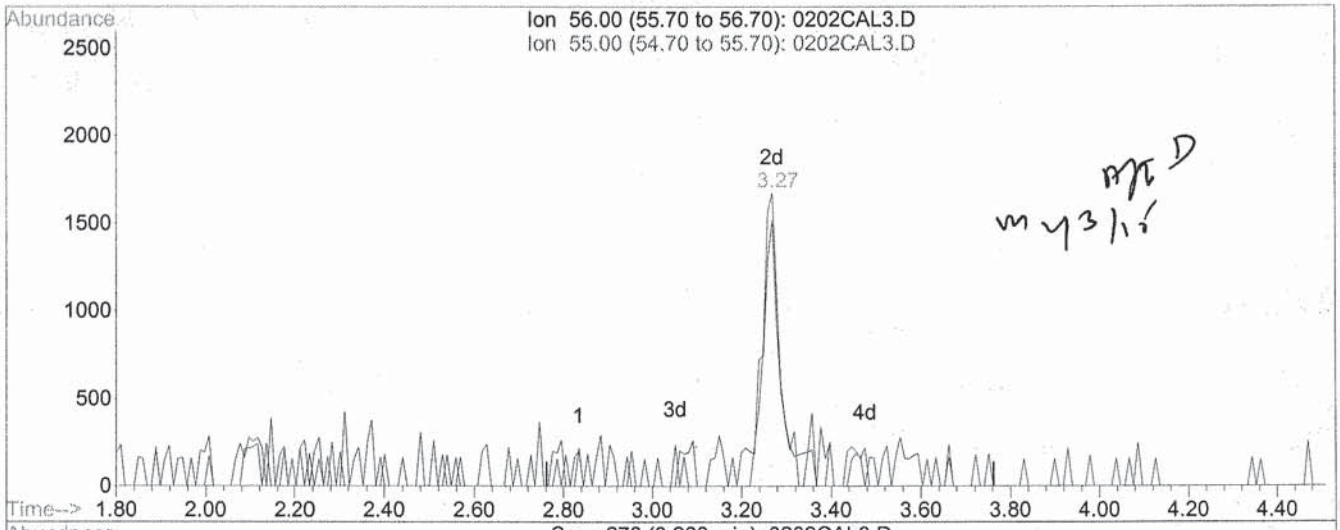
Ion	Exp%	Act%
56.00	100	100
55.00	76.60	85.05
0.00	0.00	0.00
0.00	0.00	0.00

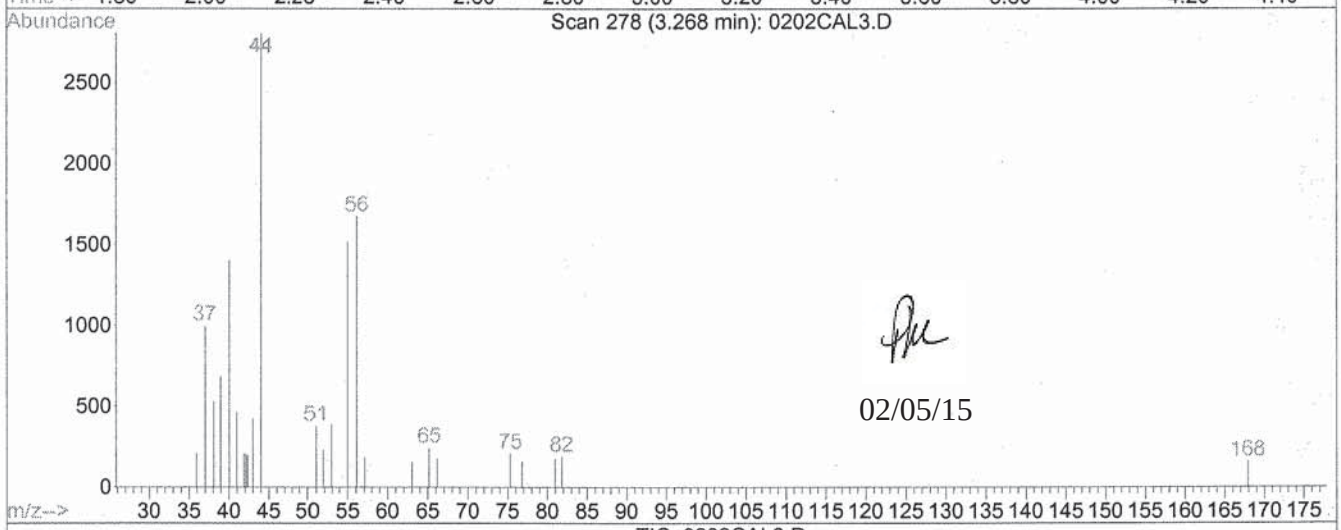
0202CAL3.D 020215W6.M Tue Feb 03 06:19:06 2015

Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL3.D Vial: 5
Acq On : 2 Feb 2015 11:34 am Operator:
Sample : SEQ-CAL3 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:19 2015 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:18:38 2015
Response via : Multiple Level Calibration





TIC: 0202CAL3.D

02/05/15

(8) Acrolein (M)

3.27min 10.04ug/L m

response 4703

Ion	Exp%	Act%
56.00	100	100
55.00	76.60	5.80#
0.00	0.00	0.00
0.00	0.00	0.00

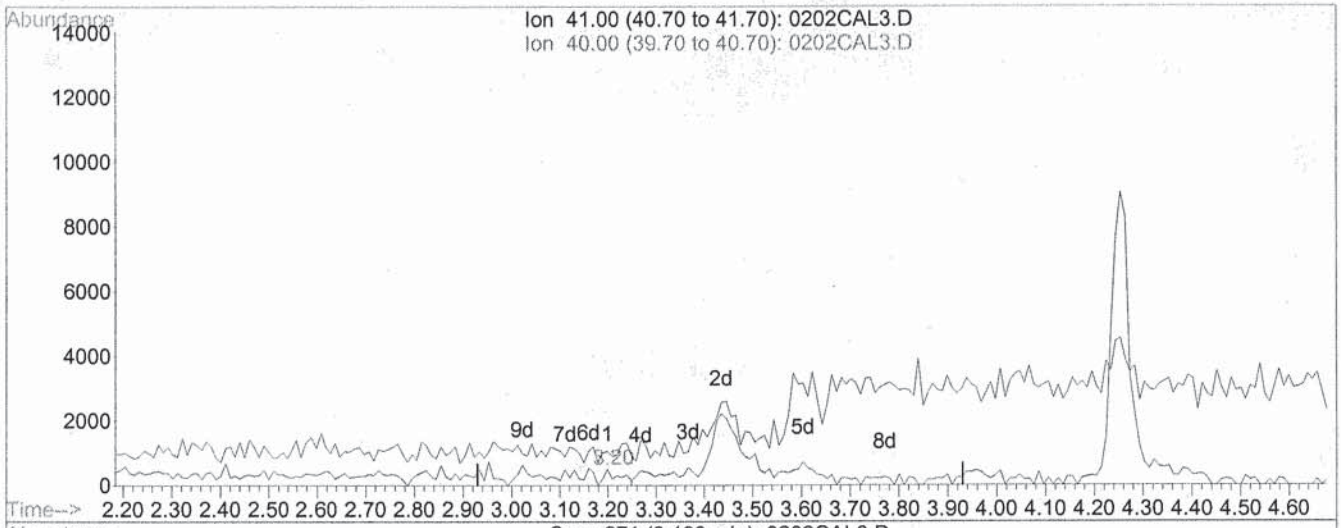
0202CAL3.D 020215W6.M Tue Feb 03 06:19:10 2015

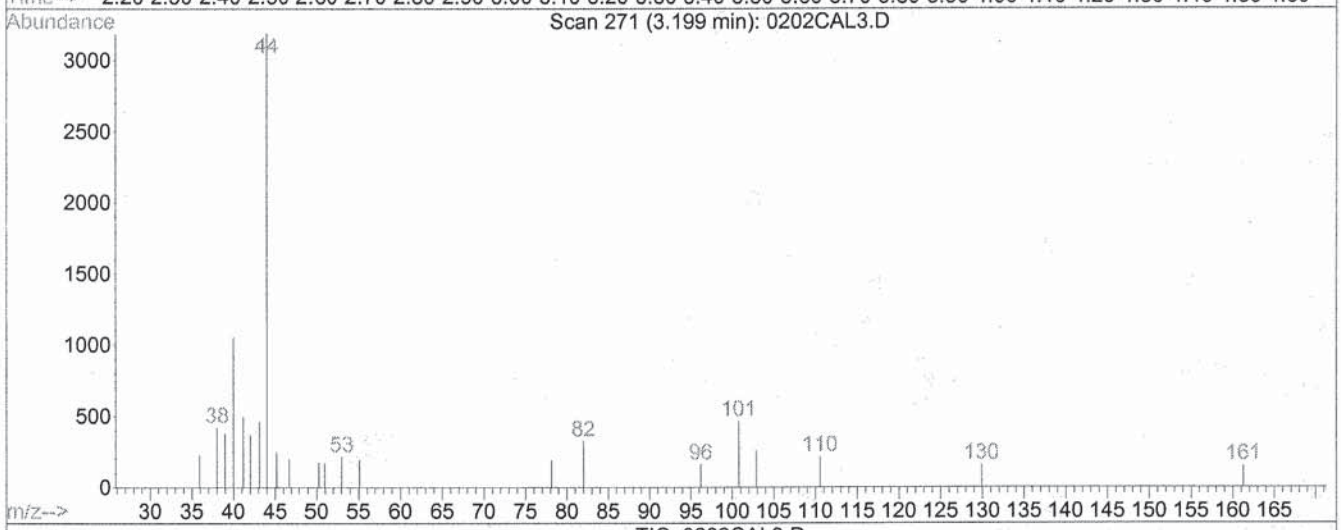
Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL3.D
Acq On : 2 Feb 2015 11:34 am
Sample : SEQ-CAL3
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:19 2015

Vial: 5
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:18:38 2015
Response via : Multiple Level Calibration





TIC: 0202CAL3.D

(10) Acetonitrile (M)

3.20min 1.79ug/L

response 1153

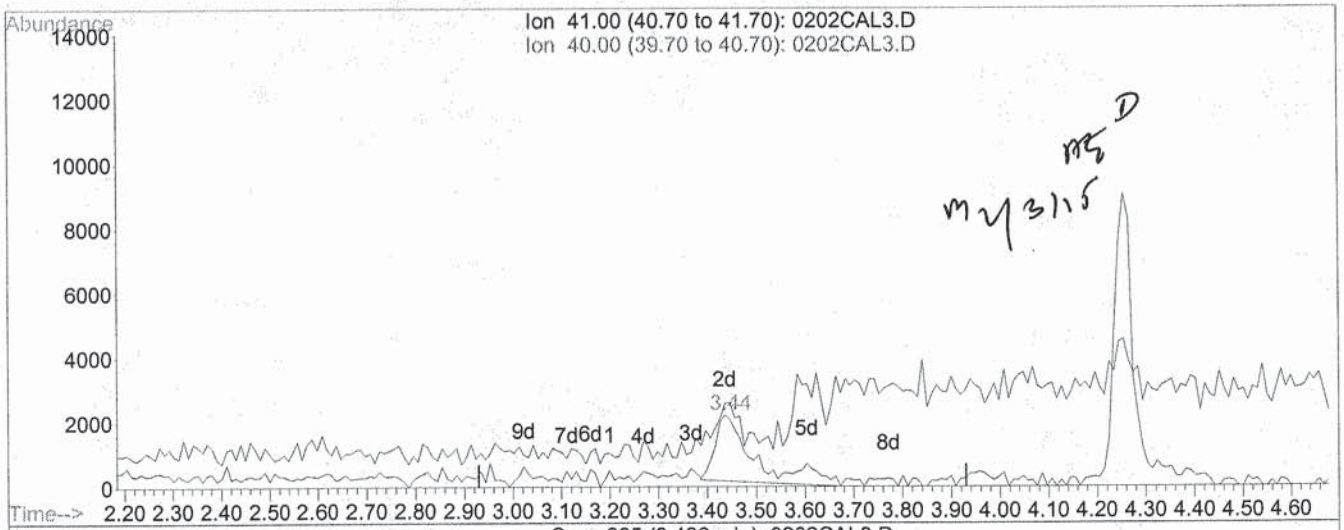
Ion	Exp%	Act%
41.00	100	100
40.00	39.40	41.63
0.00	0.00	0.00
0.00	0.00	0.00

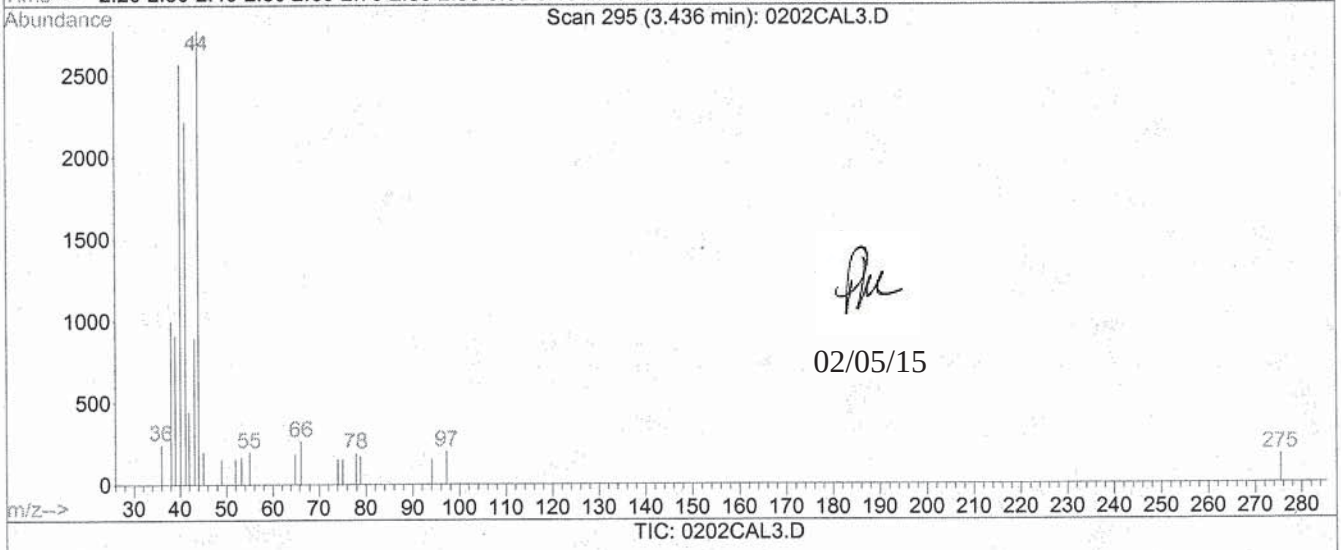
0202CAL3.D 020215W6.M Tue Feb 03 06:19:14 2015

Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL3.D Vial: 5
Acq On : 2 Feb 2015 11:34 am Operator:
Sample : SEQ-CAL3 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:19 2015 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:18:38 2015
Response via : Multiple Level Calibration





TIC: 0202CAL3.D

02/05/15

(10) Acetonitrile (M)

3.44min 17.92ug/L m

response 11518

Ion	Exp%	Act%
41.00	100	100
40.00	39.40	4.17#
0.00	0.00	0.00
0.00	0.00	0.00

0202CAL3.D 020215W6.M Tue Feb 03 06:19:20 2015

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL4.D Vial: 6
Acq On : 2 Feb 2015 12:02 pm Operator:
Sample : SEQ-CAL4 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00

02/05/15

MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:57 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:17:19 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.57	96	869305	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.69	82	368779	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.08	152	351357	30.00	ug/L	0.00
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	603362	53.16	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 177.20%#			
42) 1,2-Dichloroethane-d4	7.04	102	106776	52.52	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 175.07%#			
61) Toluene-d8	9.27	98	1337695	49.33	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 164.43%#			
82) Bromofluorobenzene	11.89	95	574983	49.14	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 163.80%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.78	85	45072	4.5477	ug/L	99
3) Chloromethane	1.98	50	23553	5.1313	ug/L	92
4) Vinyl chloride	2.11	62	15729	4.5279	ug/L	95
5) Bromomethane	2.51	94	16056	4.3808	ug/L	96
6) Chloroethane	2.63	64	11471	4.4753	ug/L #	80
7) Trichlorofluoromethane	3.09	101	71935m	5.4770	ug/L	
8) Acrolein	3.26	56	12030	25.7430	ug/L	97
9) Acetone	3.37	43	22345	9.7503	ug/L	97
10) Acetonitrile	3.43	41	30856m	43.6815	ug/L	
11) Ethyl Ether	3.48	59	15729	3.6833	ug/L	92
12) 1,1-Dichloroethene	3.81	96	37665	4.8284	ug/L	98
13) Trichlorotrifluoroethane	3.88	101	43769	4.9917	ug/L	100
14) Iodomethane	4.00	142	72579	4.8486	ug/L	92
15) t-Butyl Alcohol	3.96	59	12402	16.9974	ug/L #	75
16) Methyl Acetate	4.17	43	31768	4.2175	ug/L	99
17) Acrylonitrile	4.18	53	72336	20.9415	ug/L	97
18) Allyl chloride	4.26	76	18303	4.6462	ug/L	82
19) Methylene chloride	4.31	84	51540	5.3174	ug/L	89
20) Carbon disulfide	4.35	76	153990	5.2734	ug/L	97
21) trans-1,2-dichloroethene	4.99	96	43298	5.1741	ug/L	95
22) MTBE	5.00	73	114747	5.2353	ug/L	98
23) 1,1-Dichloroethane	5.38	63	75221	4.7221	ug/L	100
24) Vinyl acetate	5.46	43	181642	8.2280	ug/L	100
25) Propionitrile	5.56	54	56117	46.3158	ug/L #	91
26) Hexane	5.60	57	30761	4.9048	ug/L	95
27) Chloroprene	5.65	53	78318	5.3320	ug/L	97
28) Di-isopropyl ether	5.77	45	173809	4.8604	ug/L	99
29) 2-Butanone	5.85	43	45065	8.6507	ug/L	96
30) Methacrylonitrile	6.01	41	298414	50.4799	ug/L #	86
31) cis-1,2-Dichloroethene	6.10	96	49807	5.1199	ug/L	95
32) Ethyl Acetate	6.23	43	69455	5.3558	ug/L	99
33) 2,2-Dichloropropane	6.21	77	61311	4.8313	ug/L	97
34) ETBE	6.24	59	138825	4.9610	ug/L	95
35) Chloroform	6.37	83	89380	5.1778	ug/L	99
36) Bromochloromethane	6.39	128	29121	5.0878	ug/L	98
37) Isobutyl alcohol	6.48	42	10427	56.6965	ug/L	85
39) Tetrahydrofuran	6.57	72	3847	4.6168	ug/L	74
40) tert-Amyl alcohol	6.75	59	8707	16.7377	ug/L #	88
41) 1,1,1-Trichloroethane	6.93	97	73083	5.0408	ug/L	97

(#) = qualifier out of range (m) = manual integration
0202CAL4.D 020215W6.M Tue Feb 03 06:58:19 2015 Page 1

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL4.D Vial: 6
Acq On : 2 Feb 2015 12:02 pm Operator:
Sample : SEQ-CAL4 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:57 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:17:19 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloroethane	7.14	62	75377	5.0953	ug/L		99
44)	1,1-Dichloropropene	7.15	75	59119	4.9593	ug/L		96
45)	Cyclohexane	7.20	56	56140	4.7279	ug/L		99
46)	Carbon tetrachloride	7.26	117	62567	4.6932	ug/L		100
47)	Benzene	7.30	78	151763	5.0451	ug/L		98
48)	tert- Amyl Methyl Ether	7.50	73	105231	4.7491	ug/L		95
49)	Trichloroethene	8.07	95	50017	5.1668	ug/L		96
50)	1,2-Dichloropropane	8.12	63	40771	4.8256	ug/L		89
51)	Dibromomethane	8.23	93	38617	5.1185	ug/L		98
52)	Methyl methacrylate	8.27	41	36238	3.9580	ug/L		95
53)	1,4-Dioxane	8.29	88	8427	104.5332	ug/L		94
54)	Bromodichloromethane	8.30	83	62586	5.1022	ug/L		100
55)	tert- Amyl Ethyl Ether	8.40	59	112912	4.8124	ug/L		97
56)	Methyl cyclohexane	8.45	83	43414	5.1248	ug/L		99
57)	2-Chloroethyl vinyl ether	8.66	63	49743	11.0213	ug/L		98
58)	4-Methyl-2-pentanone	8.80	43	86097	8.8188	ug/L	#	92
59)	cis-1,3-Dichloropropene	8.88	75	65581	4.6872	ug/L		93
62)	trans-1,3-Dichloropropene	9.35	75	62355	4.8189	ug/L		92
63)	Toluene	9.34	92	91093	5.3976	ug/L		99
64)	1,1,2-Trichloroethane	9.50	83	33580	5.2231	ug/L		96
65)	Ethyl methacrylate	9.55	69	42332	4.3363	ug/L		98
66)	2-Hexanone	9.66	43	58716	9.0744	ug/L	#	93
67)	1,3-Dichloropropane	9.72	76	65582	5.4722	ug/L		98
68)	Dibromochloromethane	9.97	129	51791	4.5603	ug/L		96
69)	Tetrachloroethene	10.07	166	47194	4.8646	ug/L		96
70)	1,2-Dibromoethane	10.18	107	46063	4.9095	ug/L		96
71)	1-Chlorohexane	10.70	91	44562	5.2887	ug/L		92
72)	Chlorobenzene	10.73	112	107383	5.3104	ug/L		98
73)	1,1,1,2-Tetrachloroethane	10.77	131	41376	4.7443	ug/L		96
74)	Ethylbenzene	10.88	91	166558	5.0124	ug/L		95
75)	m,p-Xylene	10.99	91	260519	10.4794	ug/L		90
76)	Styrene	11.35	104	109996	5.3763	ug/L		94
77)	o-Xylene	11.38	91	135073	5.3449	ug/L		94
78)	Bromoform	11.45	173	36405	4.5359	ug/L		100
79)	Cyclohexanone	11.50	55	6838	2.7087	ug/L	#	84
80)	Isopropylbenzene	11.78	105	147859	5.0136	ug/L		98
81)	1,2,3-Trichloropropane	11.83	110	15683	5.1681	ug/L	#	46
84)	cis-1,4-Dichloro-2-butene	11.54	53	16343	4.2205	ug/L		84
85)	1,1,2,2-Tetrachloroethane	11.71	83	47657	4.9113	ug/L		97
86)	trans-1,4-Dichloro-2-buten	11.86	53	14186	3.9897	ug/L	#	1
87)	Bromobenzene	12.04	156	49474	4.7461	ug/L		99
88)	n-Propylbenzene	12.18	91	166275	4.9101	ug/L		96
89)	2-Chlorotoluene	12.26	91	111477	5.0068	ug/L		96
90)	4-Chlorotoluene	12.33	91	132289	4.9877	ug/L		99
91)	1,3,5-Trimethylbenzene	12.36	105	121140	5.0007	ug/L		96
92)	tert-Butylbenzene	12.70	119	101640	4.9398	ug/L		95
93)	1,2,4-Trimethylbenzene	12.73	105	126626	4.9613	ug/L		94
94)	sec-Butylbenzene	12.93	105	130741	5.0762	ug/L		99
95)	1,3-Dichlorobenzene	13.02	146	81967	4.9956	ug/L		98
96)	1,4-Dichlorobenzene	13.11	146	85696	5.0156	ug/L		100
97)	p-Isopropyltoluene	13.07	119	103583	4.9673	ug/L		97
98)	1,2-Dichlorobenzene	13.42	146	80287	4.9597	ug/L		98
99)	n-Butylbenzene	13.47	91	96994	4.9686	ug/L		98

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

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL4.D Vial: 6
Acq On : 2 Feb 2015 12:02 pm Operator:
Sample : SEQ-CAL4 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:57 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:17:19 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

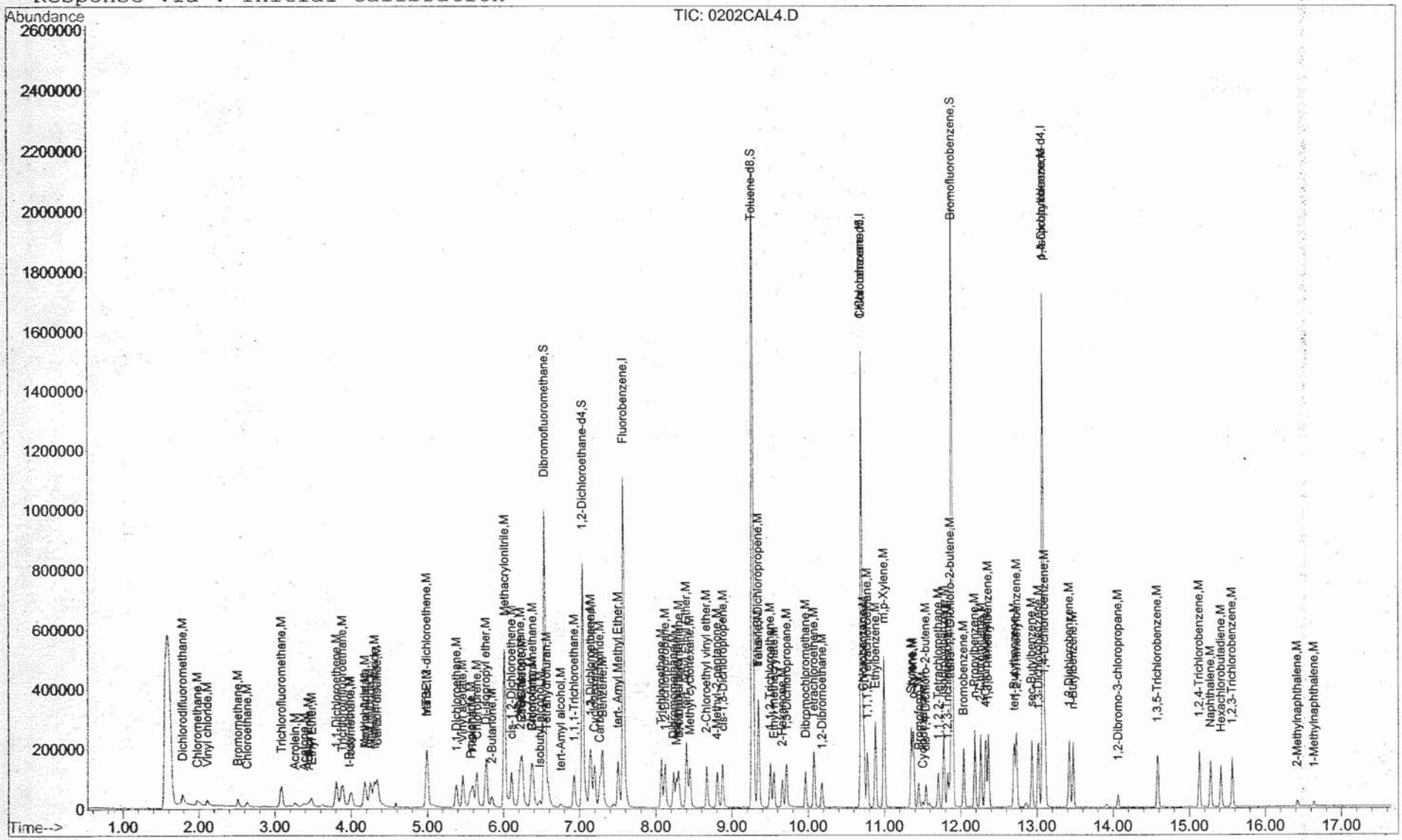
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
100)	1,2-Dibromo-3-chloropropan	14.07	157	9364	4.3661 ug/L	96
101)	1,3,5-Trichlorobenzene	14.59	180	53718	4.6197 ug/L	99
102)	1,2,4-Trichlorobenzene	15.13	180	49378	4.5148 ug/L	99
103)	Naphthalene	15.28	128	102881	4.4885 ug/L	100
104)	Hexachlorobutadiene	15.42	225	22720	4.3708 ug/L	97
105)	1,2,3-Trichlorobenzene	15.56	180	43881	4.5061 ug/L	97
106)	2-Methylnaphthalene	16.42	142	8968	1.0191 ug/L	98
107)	1-Methylnaphthalene	16.64	142	6707	0.9294 ug/L	93

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

Quantitation Report

Data File : D:\DATA\020215V6\0202CAL4.D Vial: 6
Acq On : 2 Feb 2015 12:02 pm Operator:
Sample : SEQ-CAL4 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:57 2015 Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:57:52 2015
Response via : Initial Calibration

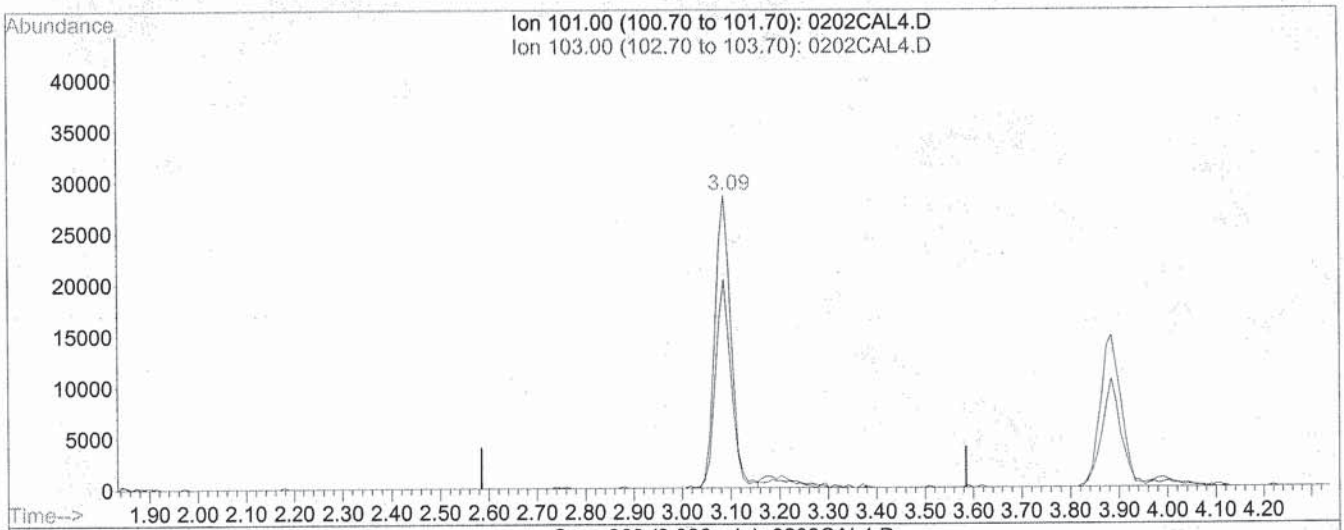


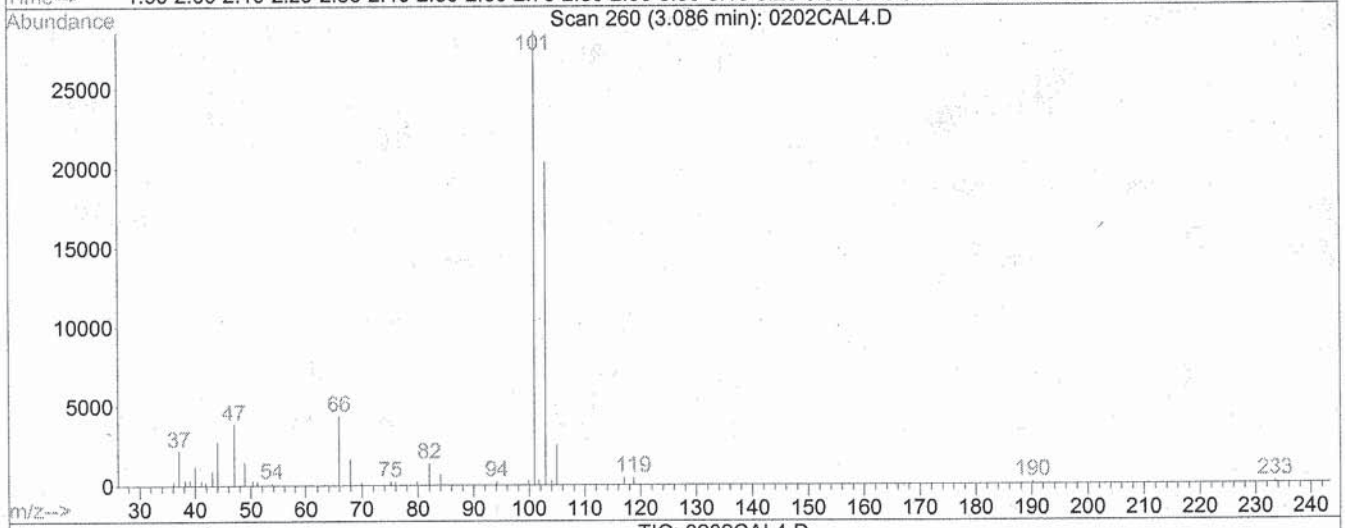
Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL4.D
Acq On : 2 Feb 2015 12:02 pm
Sample : SEQ-CAL4
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:17 2015

Vial: 6
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:48:19 2015
Response via : Multiple Level Calibration





TIC: 0202CAL4.D

(7) Trichlorofluoromethane (M)

3.09min 5.04ug/L

response 66147

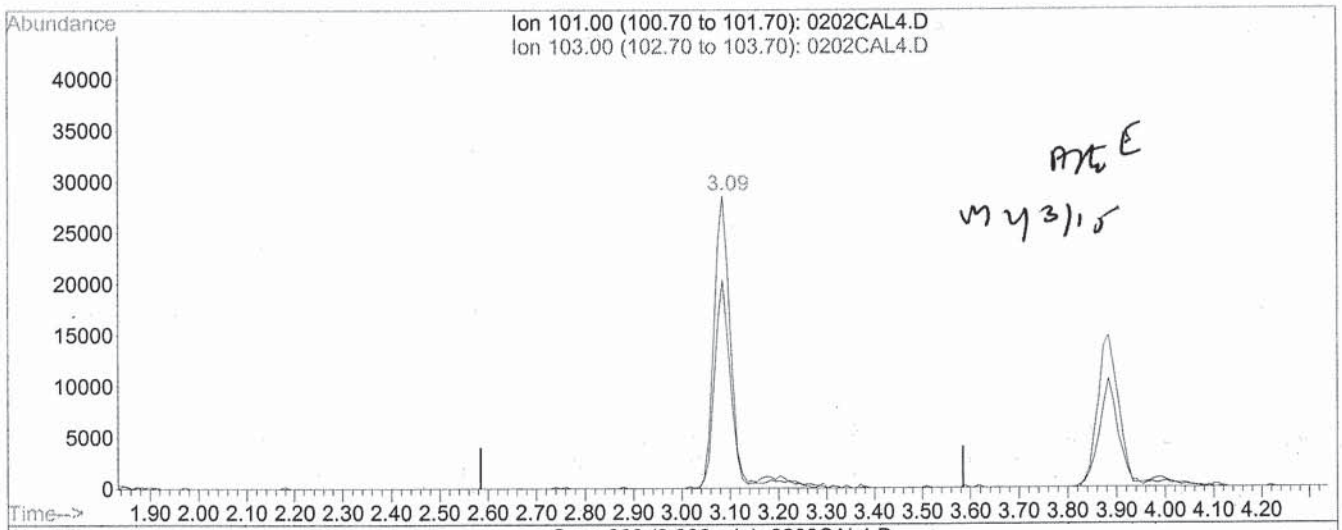
Ion	Exp%	Act%
101.00	100	100
103.00	66.20	70.12
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

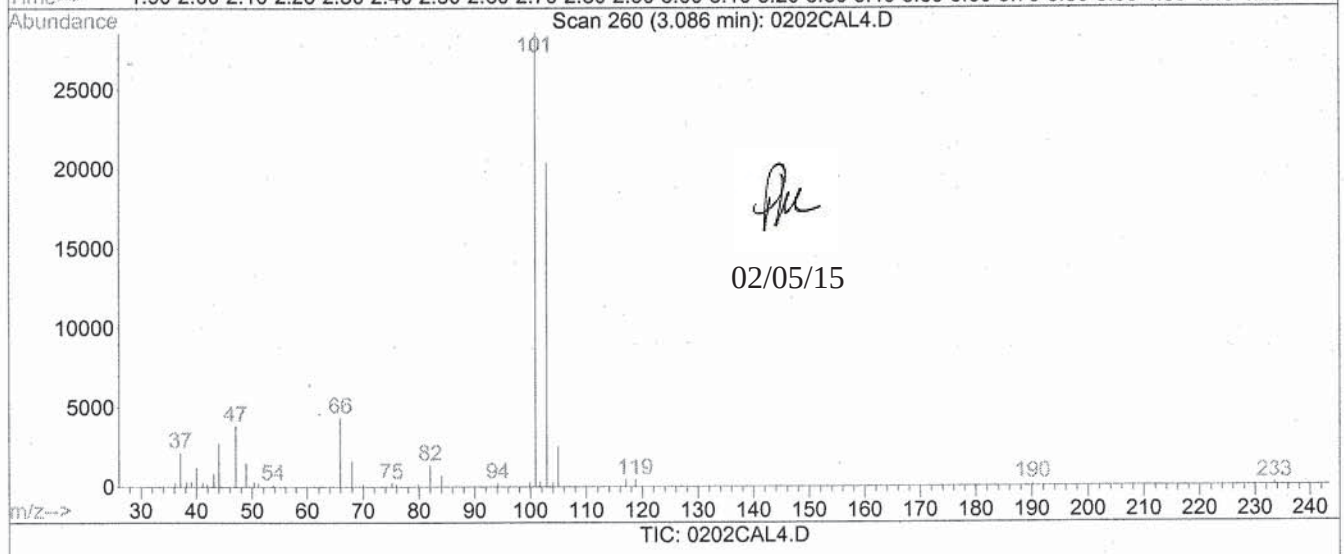
Data File : D:\DATA\020215V6\0202CAL4.D
Acq On : 2 Feb 2015 12:02 pm
Sample : SEQ-CAL4
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:57 2015

Vial: 6
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:48:19 2015
Response via : Multiple Level Calibration



RTE
MY 3/15



02/05/15

TIC: 0202CAL4.D

(7) Trichlorofluoromethane (M)

3.09min 5.48ug/L m

response 71935

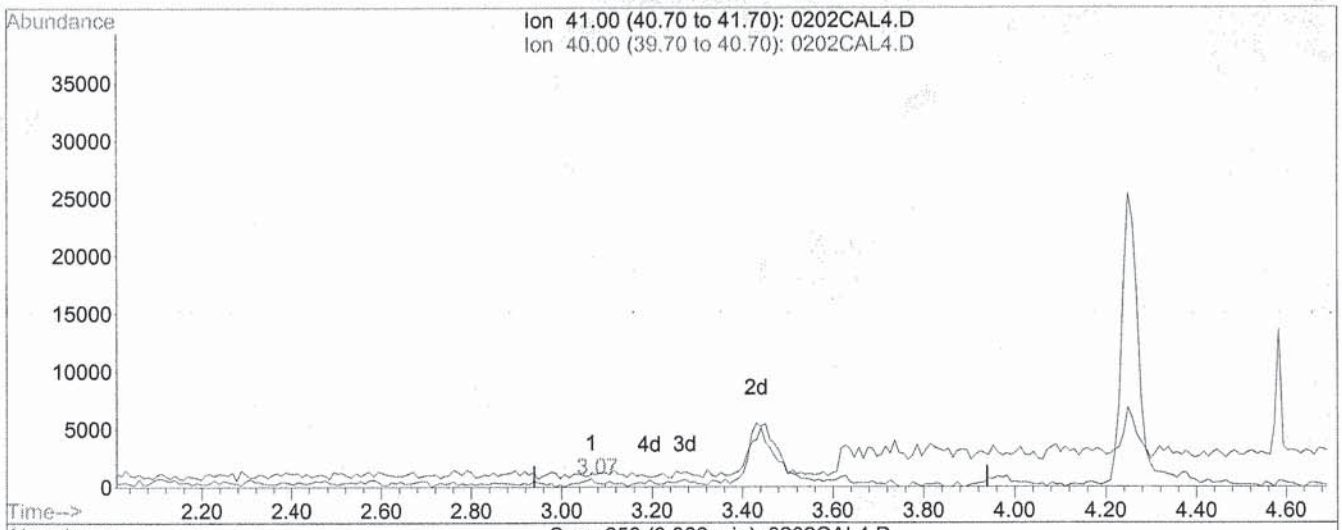
Ion	Exp%	Act%
101.00	100	100
103.00	66.20	64.48
0.00	0.00	0.00
0.00	0.00	0.00

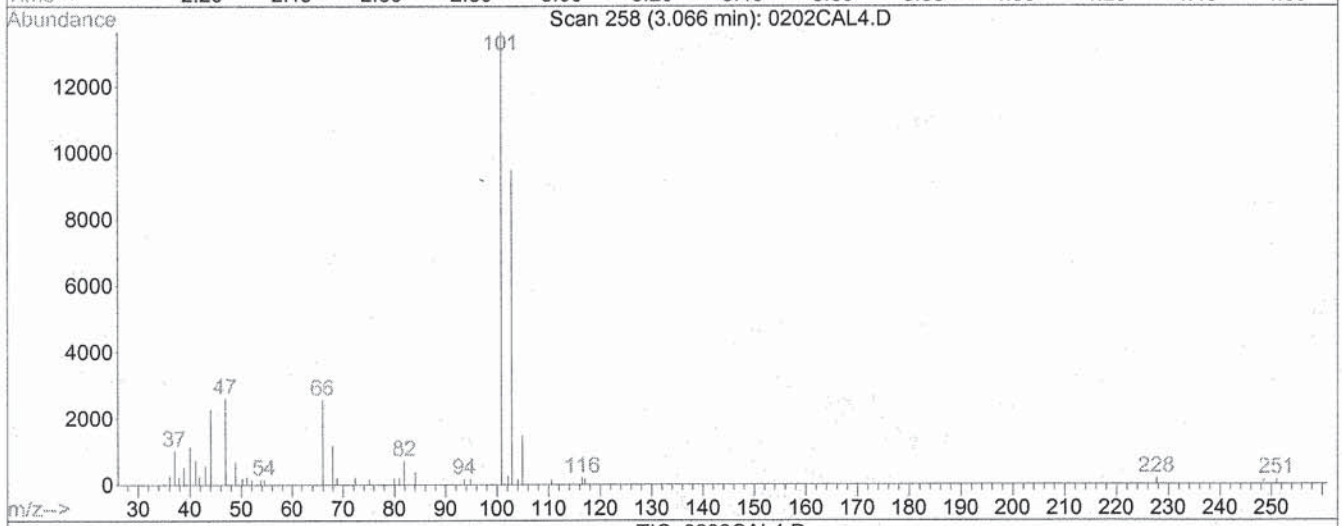
0202CAL4.D 020215W6.M Tue Feb 03 06:57:05 2015

Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL4.D Vial: 6
Acq On : 2 Feb 2015 12:02 pm Operator:
Sample : SEQ-CAL4 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:17 2015 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:17:19 2015
Response via : Multiple Level Calibration





TIC: 0202CAL4.D

(10) Acetonitrile (M)

3.07min 2.88ug/L

response 2031

Ion	Exp%	Act%
41.00	100	100
40.00	39.40	39.73
0.00	0.00	0.00
0.00	0.00	0.00

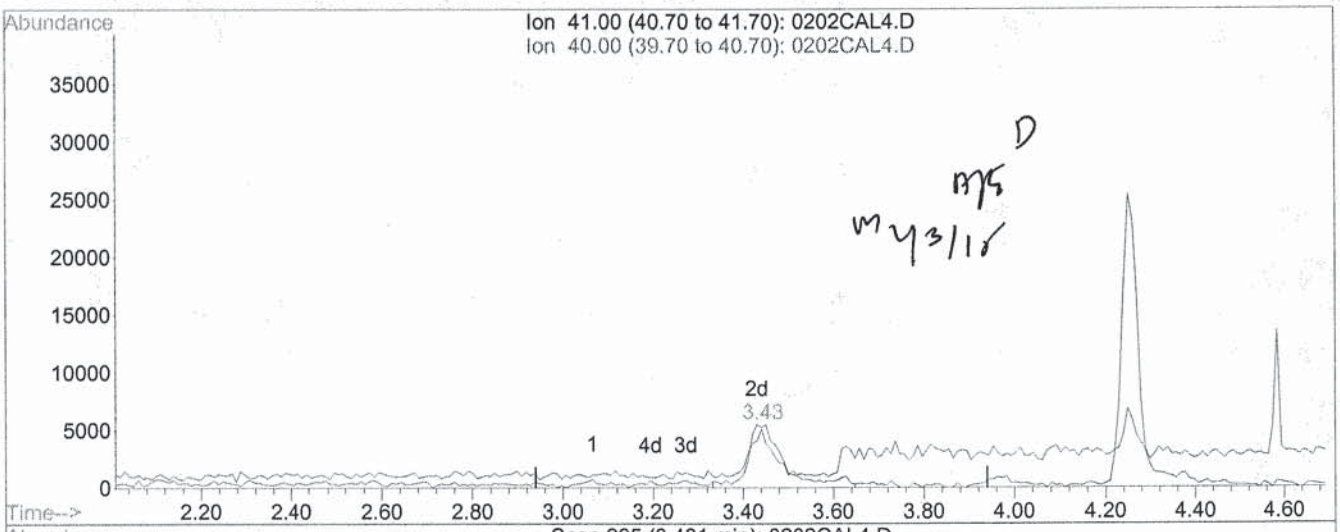
0202CAL4.D 020215W6.M Tue Feb 03 06:17:41 2015

Quantitation Report (Qedit)

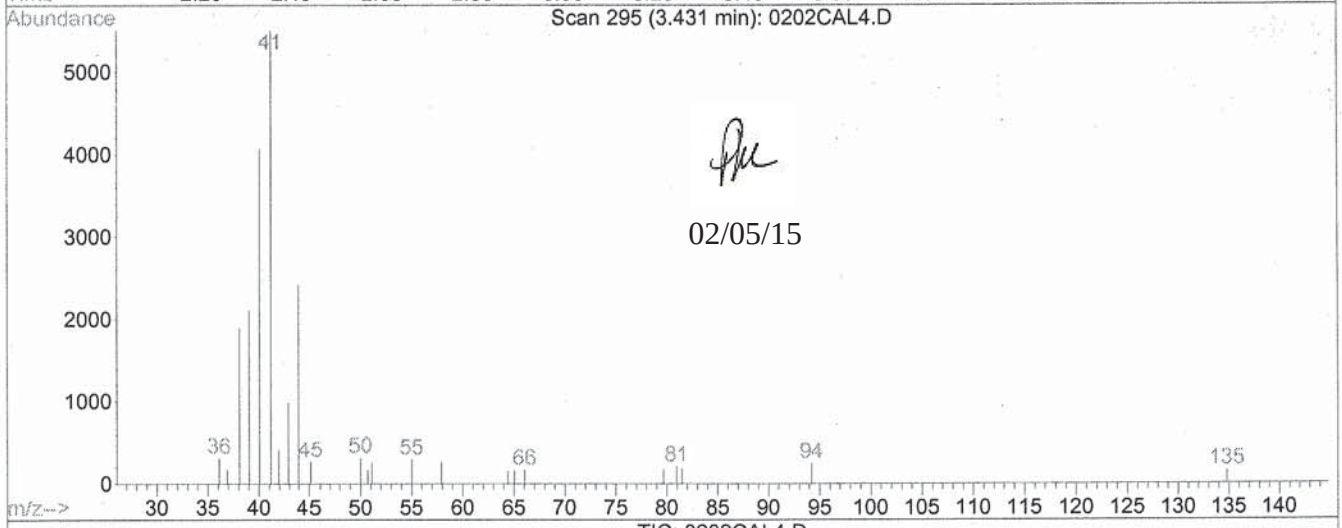
Data File : D:\DATA\020215V6\0202CAL4.D
Acq On : 2 Feb 2015 12:02 pm
Sample : SEQ-CAL4
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:17 2015

Vial: 6
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:17:19 2015
Response via : Multiple Level Calibration



D
BJS
MY3/18



TIC: 0202CAL4.D

02/05/15

(10) Acetonitrile (M)

3.43min 43.68ug/L m

response 30856

Ion	Exp%	Act%
41.00	100	100
40.00	39.40	2.62#
0.00	0.00	0.00
0.00	0.00	0.00

0202CAL4.D 020215W6.M Tue Feb 03 06:17:45 2015

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL5.D Vial: 7
Acq On : 2 Feb 2015 12:29 pm Operator:
Sample : SEQ-CAL5 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00

02/05/15

MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:59 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:16:00 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

mm 3/15

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.57	96	838442	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.69	82	363020	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.08	152	342907	30.00	ug/L	0.00
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	702973	64.96	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 216.53%#			
42) 1,2-Dichloroethane-d4	7.05	102	121810	62.42	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 208.07%#			
61) Toluene-d8	9.28	98	1552790	58.12	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 193.73%#			
82) Bromofluorobenzene	11.89	95	666734	58.08	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 193.60%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.78	85	106170	11.6950	ug/L	97
3) Chloromethane	1.98	50	46856	10.8854	ug/L	98
4) Vinyl chloride	2.11	62	30473	9.3318	ug/L	97
5) Bromomethane	2.51	94	34868	10.2010	ug/L	87
6) Chloroethane	2.63	64	25342	10.5178	ug/L	89
7) Trichlorofluoromethane	3.09	101	144531m	11.9084	ug/L	
8) Acrolein	3.26	56	20701	46.3603	ug/L	87
9) Acetone	3.38	43	42663	19.9857	ug/L	96
10) Acetonitrile	3.44	41	55120m	74.5510	ug/L	
11) Ethyl Ether	3.48	59	29887	6.7932	ug/L	98
12) 1,1-Dichloroethene	3.81	96	75817	10.2450	ug/L	94
13) Trichlorotrifluoroethane	3.88	101	87166	10.5589	ug/L	97
14) Iodomethane	4.00	142	157475	11.1301	ug/L	97
15) t-Butyl Alcohol	3.97	59	23897	33.4211	ug/L #	87
16) Methyl Acetate	4.17	43	67042	9.2188	ug/L	99
17) Acrylonitrile	4.18	53	158131	47.7930	ug/L	94
18) Allyl chloride	4.25	76	37513	9.9429	ug/L	83
19) Methylene chloride	4.31	84	99010	10.7704	ug/L	92
20) Carbon disulfide	4.35	76	292998	10.6150	ug/L	96
21) trans-1,2-dichloroethene	5.00	96	85808	10.8413	ug/L	92
22) MTBE	5.00	73	214052	10.3272	ug/L	98
23) 1,1-Dichloroethane	5.38	63	146785	9.5770	ug/L	99
24) Vinyl acetate	5.46	43	363831	16.8816	ug/L	98
25) Propionitrile	5.56	54	106892	91.1733	ug/L #	94
26) Hexane	5.60	57	55635	9.0583	ug/L	94
27) Chloroprene	5.65	53	145075	10.5163	ug/L	97
28) Di-isopropyl ether	5.77	45	324472	9.3567	ug/L	98
29) 2-Butanone	5.85	43	92464	18.4369	ug/L	96
30) Methacrylonitrile	6.01	41	563481	98.8992	ug/L	86
31) cis-1,2-Dichloroethene	6.10	96	97023	10.4653	ug/L	92
32) Ethyl Acetate	6.23	43	128950	10.5758	ug/L	98
33) 2,2-Dichloropropane	6.21	77	117046	9.7075	ug/L	97
34) ETBE	6.24	59	262017	9.7684	ug/L	98
35) Chloroform	6.37	83	170326	10.4448	ug/L	99
36) Bromochloromethane	6.39	128	57263	10.5092	ug/L	97
37) Isobutyl alcohol	6.48	42	18939	102.1426	ug/L	95
39) Tetrahydrofuran	6.57	72	7440	9.3400	ug/L	87
40) tert-Amyl alcohol	6.75	59	19405	38.3363	ug/L	96
41) 1,1,1-Trichloroethane	6.93	97	139546	10.2326	ug/L	99

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

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL5.D Vial: 7
Acq On : 2 Feb 2015 12:29 pm Operator:
Sample : SEQ-CAL5 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:59 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:16:00 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloroethane	7.14	62	145802	10.5149	ug/L		99
44)	1,1-Dichloropropene	7.15	75	117617	10.3985	ug/L		98
45)	Cyclohexane	7.20	56	105094	9.1236	ug/L		99
46)	Carbon tetrachloride	7.27	117	122985	9.7849	ug/L		99
47)	Benzene	7.30	78	284813	9.8743	ug/L		97
48)	tert- Amyl Methyl Ether	7.50	73	220313	10.5037	ug/L		98
49)	Trichloroethene	8.07	95	92744	10.1169	ug/L		99
50)	1,2-Dichloropropane	8.12	63	78783	9.6881	ug/L		94
51)	Dibromomethane	8.23	93	74884	10.5469	ug/L		99
52)	Methyl methacrylate	8.27	41	79027	9.0140	ug/L		98
53)	1,4-Dioxane	8.29	88	15559	203.5958	ug/L		90
54)	Bromodichloromethane	8.30	83	117443	10.1578	ug/L		96
55)	tert- Amyl Ethyl Ether	8.40	59	216571	9.5971	ug/L		97
56)	Methyl cyclohexane	8.45	83	82766	10.2651	ug/L		97
57)	2-Chloroethyl vinyl ether	8.67	63	98515	23.3763	ug/L		98
58)	4-Methyl-2-pentanone	8.81	43	167509	17.8674	ug/L	#	89
59)	cis-1,3-Dichloropropene	8.88	75	130987	9.7723	ug/L		94
62)	trans-1,3-Dichloropropene	9.35	75	125921	9.9984	ug/L		90
63)	Toluene	9.34	92	172090	10.4534	ug/L		98
64)	1,1,2-Trichloroethane	9.50	83	62632	9.9932	ug/L		98
65)	Ethyl methacrylate	9.55	69	84663	8.7721	ug/L		99
66)	2-Hexanone	9.66	43	112637	17.6101	ug/L	#	92
67)	1,3-Dichloropropane	9.72	76	120355	10.3142	ug/L		98
68)	Dibromochloromethane	9.97	129	105544	9.6206	ug/L		99
69)	Tetrachloroethene	10.07	166	91748	9.6663	ug/L		98
70)	1,2-Dibromoethane	10.18	107	94043	10.3824	ug/L		97
71)	1-Chlorohexane	10.71	91	85311	10.3899	ug/L		99
72)	Chlorobenzene	10.73	112	203562	10.3354	ug/L		100
73)	1,1,1,2-Tetrachloroethane	10.77	131	81285	9.4891	ug/L		97
74)	Ethylbenzene	10.88	91	329840	10.2213	ug/L		98
75)	m,p-Xylene	10.99	91	491331	20.2917	ug/L		92
76)	Styrene	11.35	104	213275	10.6891	ug/L		93
77)	o-Xylene	11.38	91	254275	10.3343	ug/L		95
78)	Bromoform	11.45	173	71451	9.2003	ug/L		97
79)	Cyclohexanone	11.50	55	15752	5.4823	ug/L	#	80
80)	Isopropylbenzene	11.78	105	284457	9.9224	ug/L		95
81)	1,2,3-Trichloropropane	11.83	110	30791	10.5983	ug/L	#	48
84)	cis-1,4-Dichloro-2-butene	11.54	53	32130	8.7147	ug/L		93
85)	1,1,2,2-Tetrachloroethane	11.71	83	94902	10.1755	ug/L		96
86)	trans-1,4-Dichloro-2-buten	11.86	53	29256	8.6056	ug/L	#	1
87)	Bromobenzene	12.04	156	98824	9.8203	ug/L		98
88)	n-Propylbenzene	12.18	91	322193	9.8899	ug/L		98
89)	2-Chlorotoluene	12.26	91	213669	9.9775	ug/L		96
90)	4-Chlorotoluene	12.33	91	253828	9.9451	ug/L		98
91)	1,3,5-Trimethylbenzene	12.36	105	230037	9.8792	ug/L		95
92)	tert-Butylbenzene	12.70	119	205456	10.4245	ug/L		87
93)	1,2,4-Trimethylbenzene	12.73	105	259059	10.6445	ug/L		94
94)	sec-Butylbenzene	12.93	105	252806	10.2070	ug/L		100
95)	1,3-Dichlorobenzene	13.02	146	161839	10.2305	ug/L		100
96)	1,4-Dichlorobenzene	13.11	146	159959	9.7159	ug/L		98
97)	p-Isopropyltoluene	13.07	119	201960	10.0861	ug/L		99
98)	1,2-Dichlorobenzene	13.42	146	153921	9.8427	ug/L		100
99)	n-Butylbenzene	13.47	91	191501	10.2067	ug/L		98

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

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL5.D Vial: 7
Acq On : 2 Feb 2015 12:29 pm Operator:
Sample : SEQ-CAL5 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:59 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:16:00 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
100) 1,2-Dibromo-3-chloropropan	14.07	157	18960	9.2478 ug/L	89
101) 1,3,5-Trichlorobenzene	14.59	180	108820	9.7392 ug/L	98
102) 1,2,4-Trichlorobenzene	15.13	180	98809	9.3541 ug/L	98
103) Naphthalene	15.28	128	212249	9.6256 ug/L	100
104) Hexachlorobutadiene	15.42	225	47082	9.4258 ug/L	98
105) 1,2,3-Trichlorobenzene	15.56	180	88481	9.4231 ug/L	98
106) 2-Methylnaphthalene	16.42	142	18239	2.1574 ug/L	92
107) 1-Methylnaphthalene	16.64	142	15177	2.1814 ug/L	95

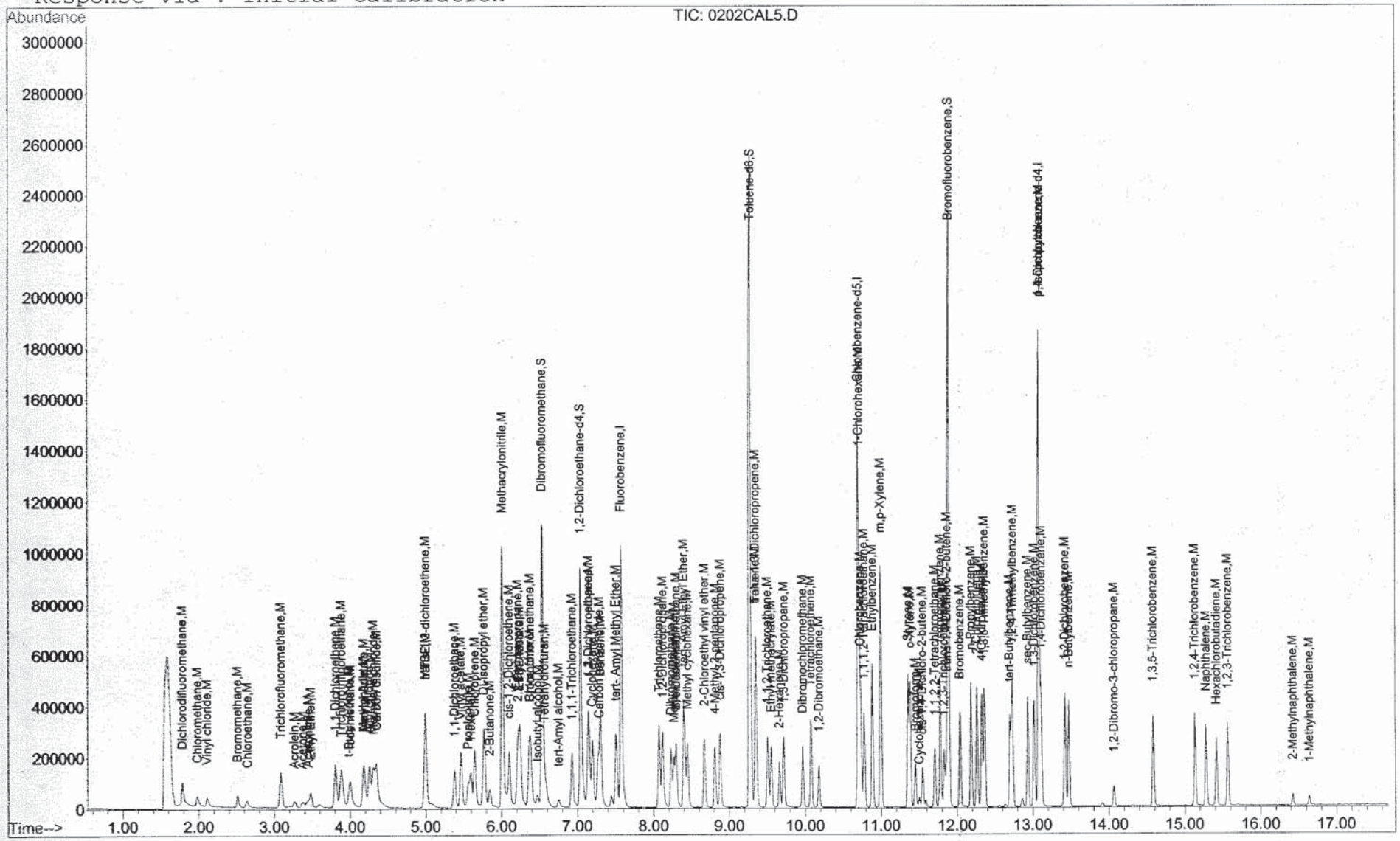
(#) = qualifier out of range (m) = manual integration
0202CAL5.D 020215W6.M Tue Feb 03 06:59:35 2015 Page 3

Quantitation Report

Data File : D:\DATA\020215V6\0202CAL5.D
Acq On : 2 Feb 2015 12:29 pm
Sample : SEQ-CAL5
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:59 2015

Vial: 7
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:57:52 2015
Response via : Initial Calibration

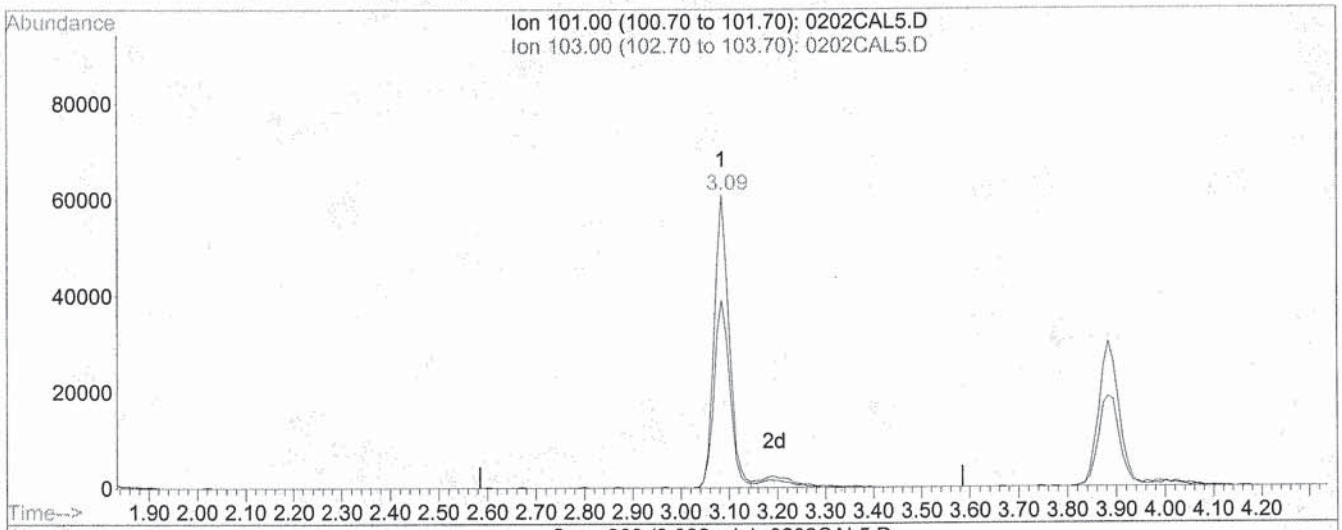


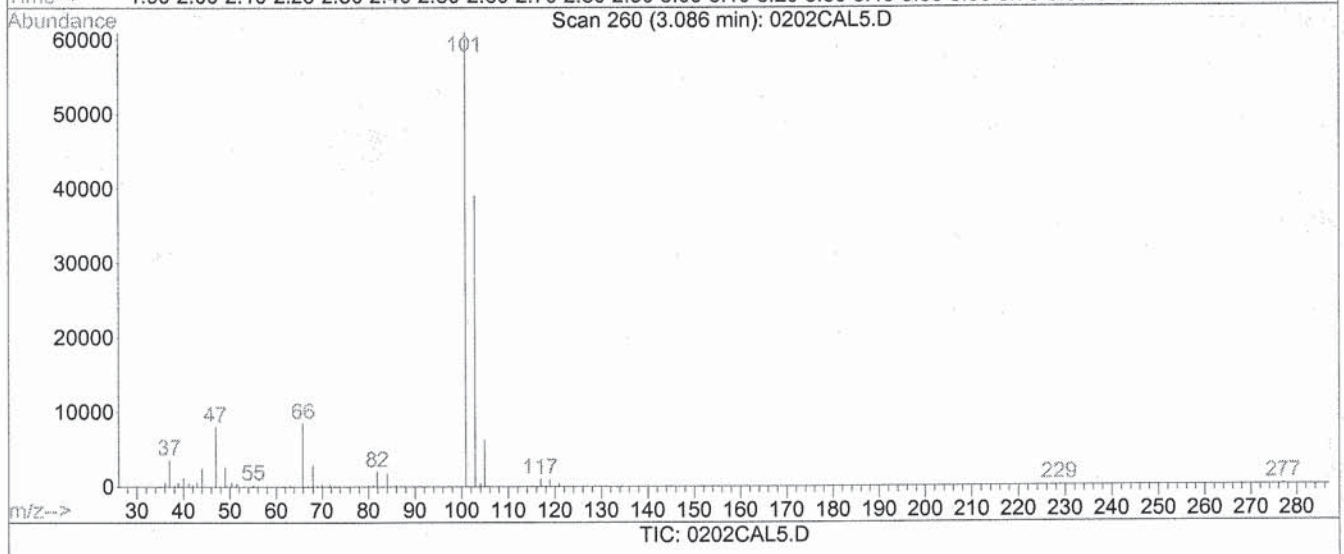
Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL5.D
Acq On : 2 Feb 2015 12:29 pm
Sample : SEQ-CAL5
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:16 2015

Vial: 7
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:57:52 2015
Response via : Multiple Level Calibration





TIC: 0202CAL5.D

(7) Trichlorofluoromethane (M)

3.09min 10.87ug/L

response 131960

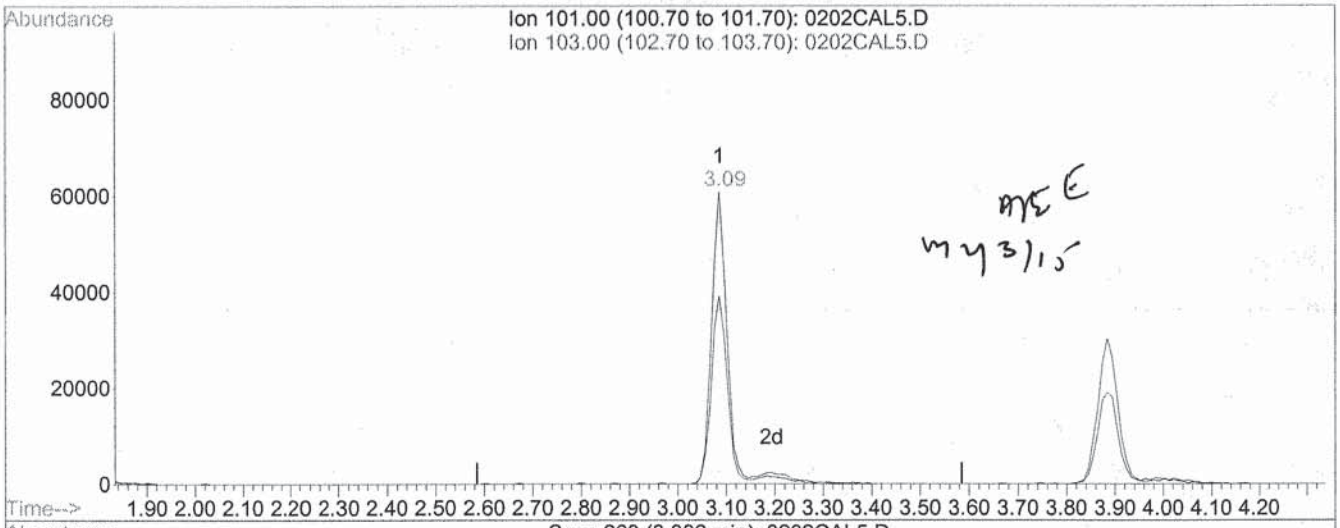
Ion	Exp%	Act%
101.00	100	100
103.00	66.20	68.77
0.00	0.00	0.00
0.00	0.00	0.00

0202CAL5.D 020215W6.M Tue Feb 03 06:59:07 2015

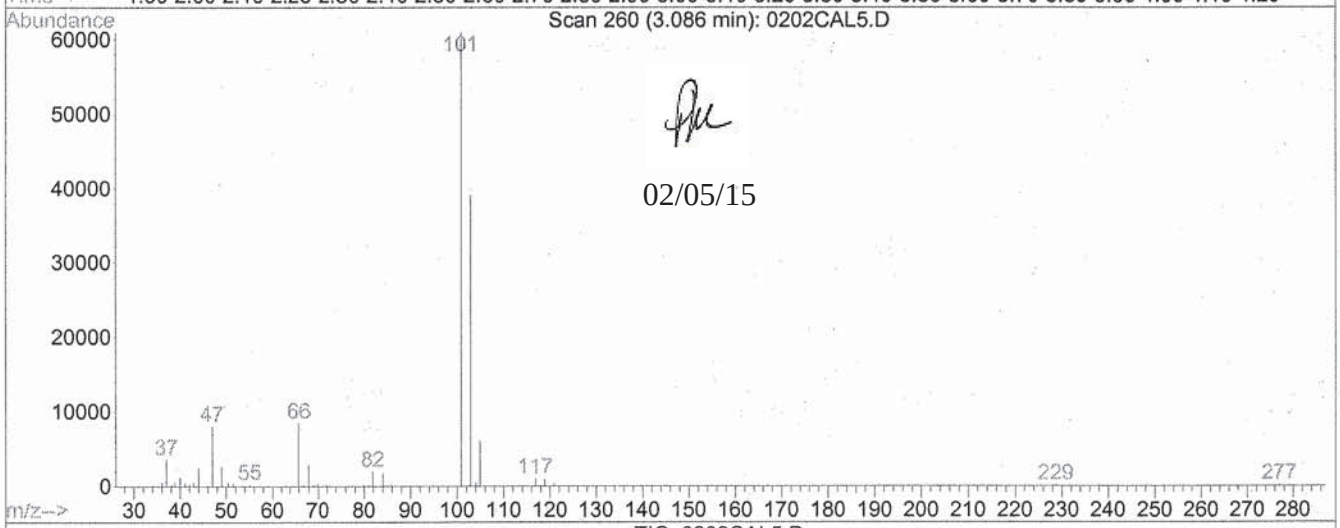
Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL5.D Vial: 7
Acq On : 2 Feb 2015 12:29 pm Operator:
Sample : SEQ-CAL5 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:59 2015 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:57:52 2015
Response via : Multiple Level Calibration



MTBE
m/z 3/15



TIC: 0202CAL5.D

02/05/15

(7) Trichlorofluoromethane (M)

3.09min 11.91ug/L m

response 144531

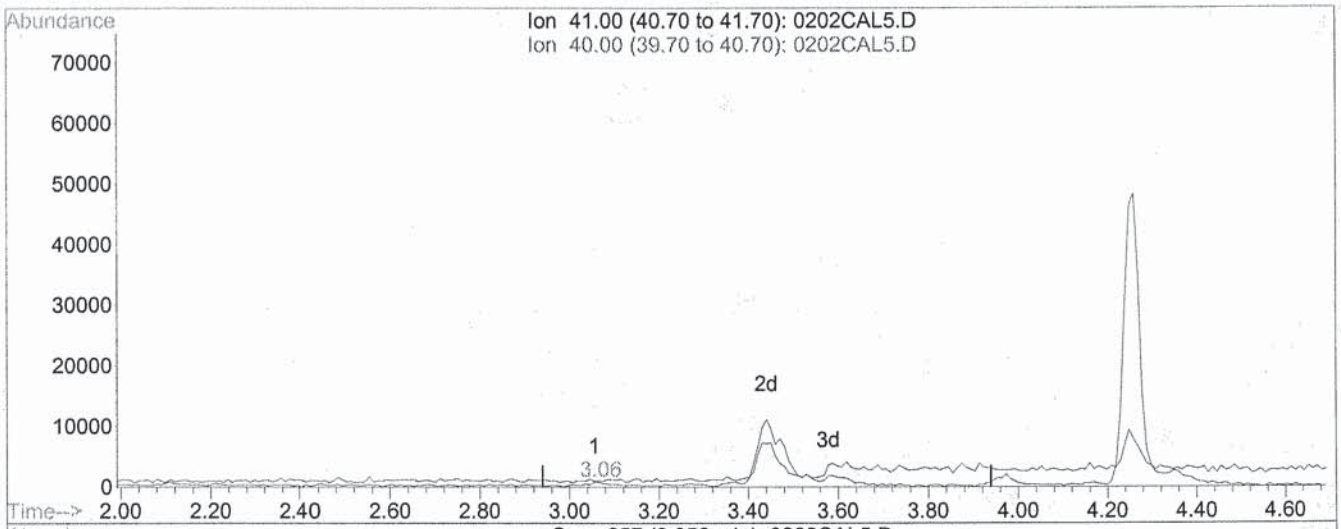
Ion	Exp%	Act%
101.00	100	100
103.00	66.20	62.79
0.00	0.00	0.00
0.00	0.00	0.00

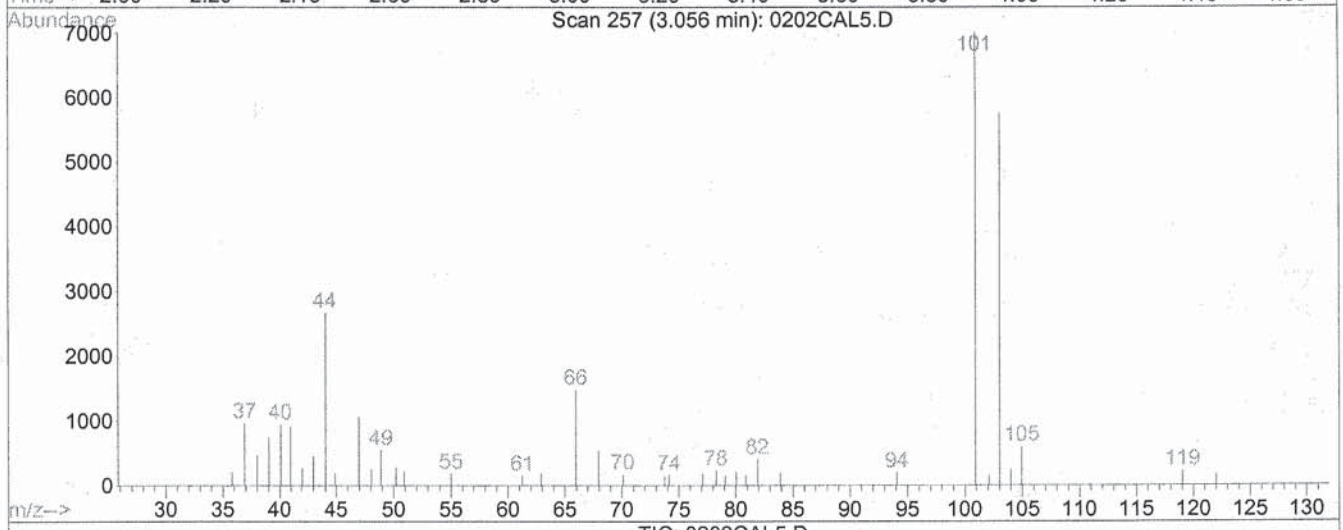
0202CAL5.D 020215W6.M Tue Feb 03 06:59:11 2015

Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL5.D Vial: 7
Acq On : 2 Feb 2015 12:29 pm Operator:
Sample : SEQ-CAL5 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:16 2015 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:16:00 2015
Response via : Multiple Level Calibration





TIC: 0202CAL5.D

(10) Acetonitrile (M)

3.06min 5.22ug/L

response 3858

Ion	Exp%	Act%
41.00	100	100
40.00	39.40	32.40
0.00	0.00	0.00
0.00	0.00	0.00

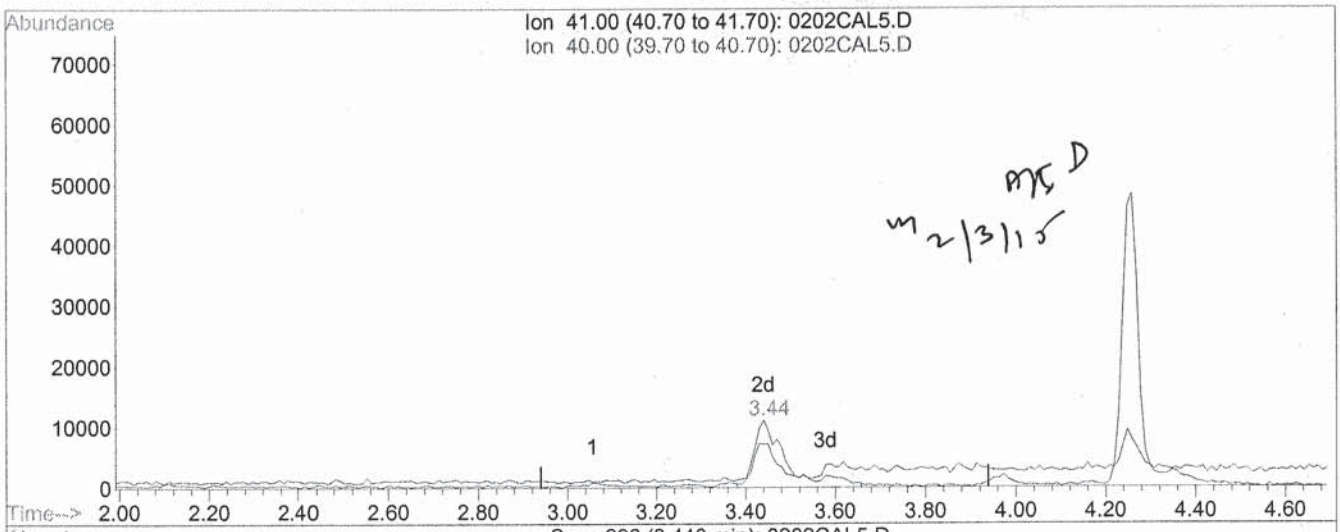
0202CAL5.D 020215W6.M Tue Feb 03 06:16:24 2015

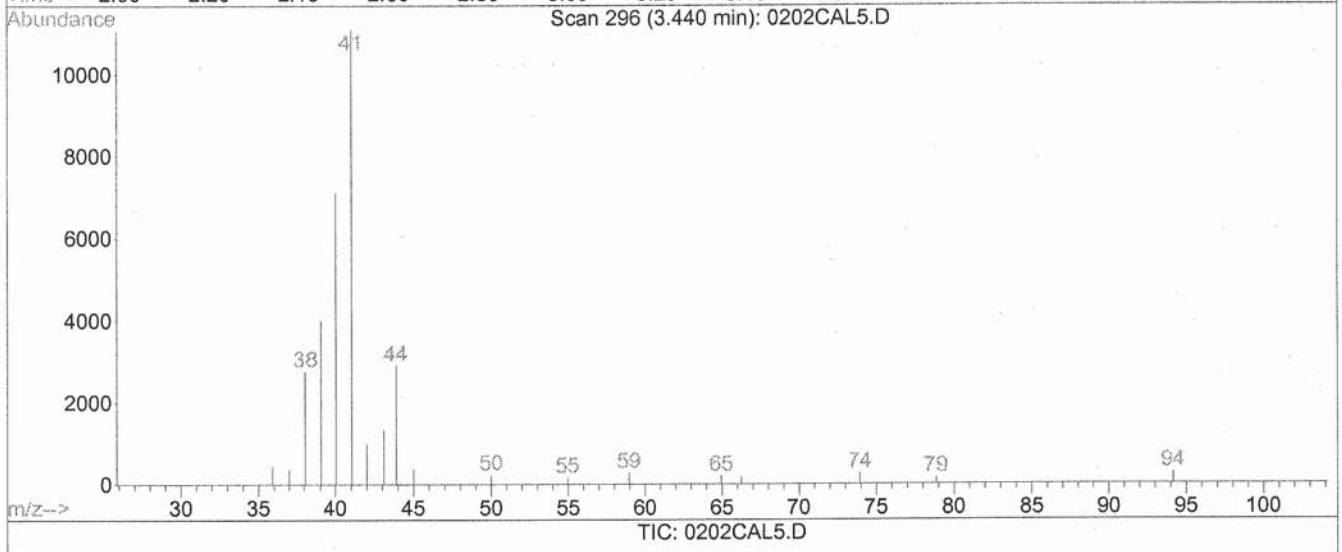
Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL5.D
Acq On : 2 Feb 2015 12:29 pm
Sample : SEQ-CAL5
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:16 2015

Vial: 7
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:16:00 2015
Response via : Multiple Level Calibration





TIC: 0202CAL5.D

(10) Acetonitrile (M)

3.44min 74.55ug/L m

response 55120

Ion	Exp%	Act%
41.00	100	100
40.00	39.40	2.27#
0.00	0.00	0.00
0.00	0.00	0.00

02/05/15

0202CAL5.D 020215W6.M Tue Feb 03 06:16:28 2015

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL6.D Vial: 8
Acq On : 2 Feb 2015 12:57 pm Operator:
Sample : SEQ-CAL6 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00

02/05/15

MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:15 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:14:42 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.57	96	804117	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.69	82	346821	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.08	152	311706	30.00	ug/L	0.00
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	777413	75.62	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 252.07%#			
42) 1,2-Dichloroethane-d4	7.05	102	137089	73.54	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 245.13%#			
61) Toluene-d8	9.28	98	1750508	68.39	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 227.97%#			
82) Bromofluorobenzene	11.89	95	755777	69.16	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 230.53%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.78	85	578346	70.4645	ug/L	99
3) Chloromethane	1.98	50	227219	55.6446	ug/L	99
4) Vinyl chloride	2.11	62	168936	56.4698	ug/L	99
5) Bromomethane	2.51	94	179961	56.1937	ug/L	99
6) Chloroethane	2.63	64	121508	53.5611	ug/L	96
7) Trichlorofluoromethane	3.09	101	704006	63.4239	ug/L	99
8) Acrolein	3.27	56	107057	249.9216	ug/L	96
9) Acetone	3.38	43	212654	106.6743	ug/L	98
10) Acetonitrile	3.44	41	277819m	341.9429	ug/L	
11) Ethyl Ether	3.48	59	148628	31.9220	ug/L	99
12) 1,1-Dichloroethene	3.81	96	386821	55.2874	ug/L	96
13) Trichlorotrifluoroethane	3.88	101	441133	56.7224	ug/L	100
14) Iodomethane	4.00	142	880008	65.2907	ug/L	100
15) t-Butyl Alcohol	3.97	59	147704	212.2868	ug/L	97
16) Methyl Acetate	4.17	43	301624	42.2665	ug/L	99
17) Acrylonitrile	4.19	53	759397	236.2621	ug/L	98
18) Allyl chloride	4.26	76	179945	49.8069	ug/L	87
19) Methylene chloride	4.31	84	449156	51.7214	ug/L	98
20) Carbon disulfide	4.35	76	1432695	54.8206	ug/L	99
21) trans-1,2-dichloroethene	5.00	96	388947	51.5230	ug/L	97
22) MTBE	5.00	73	1043934	53.0214	ug/L	99
23) 1,1-Dichloroethane	5.38	63	761549	51.8773	ug/L	100
24) Vinyl acetate	5.47	43	1881642	89.1467	ug/L	99
25) Propionitrile	5.56	54	493893	430.0942	ug/L	94
26) Hexane	5.60	57	279499	47.1436	ug/L	93
27) Chloroprene	5.65	53	737692	56.4128	ug/L	97
28) Di-isopropyl ether	5.78	45	1518715	44.7877	ug/L	99
29) 2-Butanone	5.85	43	463802	94.9141	ug/L	99
30) Methacrylonitrile	6.02	41	2440393	441.0372	ug/L	93
31) cis-1,2-Dichloroethene	6.11	96	428246	48.1946	ug/L	97
32) Ethyl Acetate	6.23	43	635188	55.4822	ug/L	100
33) 2,2-Dichloropropane	6.21	77	598480	52.4985	ug/L	98
34) ETBE	6.25	59	1273104	49.4550	ug/L	98
35) Chloroform	6.37	83	835709	54.1923	ug/L	99
36) Bromochloromethane	6.39	128	265820	50.9845	ug/L	99
37) Isobutyl alcohol	6.48	42	135163	730.9810	ug/L	91
39) Tetrahydrofuran	6.57	72	36682	47.7185	ug/L	90
40) tert-Amyl alcohol	6.75	59	114706	231.8935	ug/L	98
41) 1,1,1-Trichloroethane	6.93	97	744322	58.2560	ug/L	100

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

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL6.D Vial: 8
Acq On : 2 Feb 2015 12:57 pm Operator:
Sample : SEQ-CAL6 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:15 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:14:42 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloroethane	7.14	62	749351	57.7873	ug/L		100
44)	1,1-Dichloropropene	7.16	75	566001	52.5709	ug/L		98
45)	Cyclohexane	7.20	56	522265	46.7686	ug/L		99
46)	Carbon tetrachloride	7.27	117	678111	57.5691	ug/L		100
47)	Benzene	7.30	78	1431049	51.6728	ug/L		99
48)	tert- Amyl Methyl Ether	7.51	73	1077307	53.7280	ug/L		99
49)	Trichloroethene	8.07	95	472204	54.4434	ug/L		99
50)	1,2-Dichloropropane	8.12	63	401230	51.0840	ug/L		96
51)	Dibromomethane	8.23	93	377297	56.2710	ug/L		99
52)	Methyl methacrylate	8.27	41	402198	47.5704	ug/L		98
53)	1,4-Dioxane	8.29	88	83105	1148.9288	ug/L		99
54)	Bromodichloromethane	8.30	83	618418	56.7185	ug/L		100
55)	tert- Amyl Ethyl Ether	8.40	59	1095936	50.3917	ug/L		98
56)	Methyl cyclohexane	8.45	83	397772	51.5381	ug/L		97
57)	2-Chloroethyl vinyl ether	8.67	63	474572	119.0452	ug/L		99
58)	4-Methyl-2-pentanone	8.81	43	837757	92.0016	ug/L		98
59)	cis-1,3-Dichloropropene	8.88	75	650864	50.5329	ug/L		97
62)	trans-1,3-Dichloropropene	9.35	75	615483	51.2443	ug/L		96
63)	Toluene	9.34	92	780914	49.5453	ug/L		100
64)	1,1,2-Trichloroethane	9.50	83	302660	50.4515	ug/L		99
65)	Ethyl methacrylate	9.55	69	437512	46.8891	ug/L		100
66)	2-Hexanone	9.66	43	557809	89.9659	ug/L	#	92
67)	1,3-Dichloropropane	9.72	76	575526	51.5132	ug/L		100
68)	Dibromochloromethane	9.96	129	561885	54.0837	ug/L		100
69)	Tetrachloroethene	10.08	166	464968	51.3632	ug/L		99
70)	1,2-Dibromoethane	10.18	107	461535	53.6845	ug/L		100
71)	1-Chlorohexane	10.71	91	392999	50.0799	ug/L		99
72)	Chlorobenzene	10.73	112	966107	51.3108	ug/L		98
73)	1,1,1,2-Tetrachloroethane	10.77	131	426614	52.1433	ug/L		99
74)	Ethylbenzene	10.88	91	1622232	52.9106	ug/L		97
75)	m,p-Xylene	10.99	91	2376551	103.3134	ug/L		95
76)	Styrene	11.35	104	989644	51.7773	ug/L		96
77)	o-Xylene	11.38	91	1192650	50.9776	ug/L		97
78)	Bromoform	11.45	173	404292	54.7169	ug/L		99
79)	Cyclohexanone	11.50	55	70655	22.2951	ug/L		97
80)	Isopropylbenzene	11.78	105	1420947	52.2126	ug/L		98
81)	1,2,3-Trichloropropane	11.83	110	145570	53.0883	ug/L	#	51
84)	cis-1,4-Dichloro-2-butene	11.54	53	185927	56.7939	ug/L		95
85)	1,1,2,2-Tetrachloroethane	11.71	83	453784	53.5773	ug/L		99
86)	trans-1,4-Dichloro-2-buten	11.86	53	164029	53.9540	ug/L	#	55
87)	Bromobenzene	12.04	156	475828	51.9506	ug/L		100
88)	n-Propylbenzene	12.18	91	1611754	54.8628	ug/L		98
89)	2-Chlorotoluene	12.26	91	1037077	53.5847	ug/L		98
90)	4-Chlorotoluene	12.33	91	1244012	54.1800	ug/L		98
91)	1,3,5-Trimethylbenzene	12.36	105	1132713	54.0715	ug/L		97
92)	tert-Butylbenzene	12.70	119	959231	53.9762	ug/L		98
93)	1,2,4-Trimethylbenzene	12.73	105	1203449	55.1420	ug/L		98
94)	sec-Butylbenzene	12.93	105	1218690	54.5915	ug/L		100
95)	1,3-Dichlorobenzene	13.02	146	750172	52.3667	ug/L		100
96)	1,4-Dichlorobenzene	13.11	146	760737	51.0332	ug/L		99
97)	p-Isopropyltoluene	13.07	119	973412	53.9816	ug/L		99
98)	1,2-Dichlorobenzene	13.42	146	735573	51.8139	ug/L		99
99)	n-Butylbenzene	13.47	91	935896	55.5589	ug/L		99

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

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL6.D Vial: 8
Acq On : 2 Feb 2015 12:57 pm Operator:
Sample : SEQ-CAL6 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:15 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:14:42 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
100) 1,2-Dibromo-3-chloropropan	14.07	157	104677	56.7210	ug/L	95
101) 1,3,5-Trichlorobenzene	14.59	180	534985	52.9327	ug/L	99
102) 1,2,4-Trichlorobenzene	15.13	180	513373	53.8436	ug/L	99
103) Naphthalene	15.28	128	1086903	54.5170	ug/L	100
104) Hexachlorobutadiene	15.42	225	229674	51.2049	ug/L	97
105) 1,2,3-Trichlorobenzene	15.56	180	443481	52.1586	ug/L	98
106) 2-Methylnaphthalene	16.42	142	99477	13.1207	ug/L	96
107) 1-Methylnaphthalene	16.64	142	80302	12.8382	ug/L	98

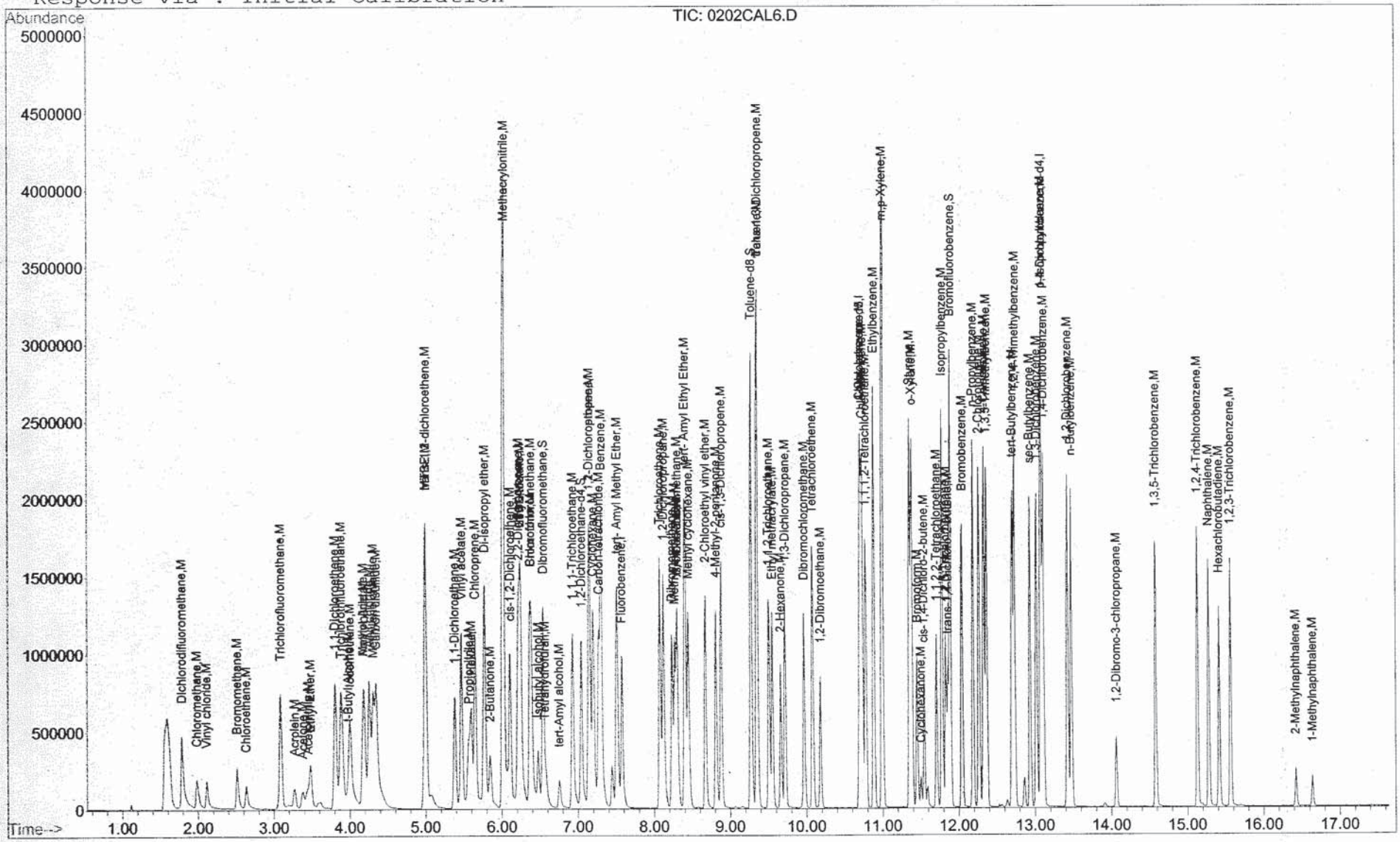
(#) = qualifier out of range (m) = manual integration
0202CAL6.D 020215W6.M Tue Feb 03 06:15:52 2015 Page 3

Quantitation Report

Data File : D:\DATA\020215V6\0202CAL6.D
Acq On : 2 Feb 2015 12:57 pm
Sample : SEQ-CAL6
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:15 2015

Vial: 8
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:14:42 2015
Response via : Initial Calibration

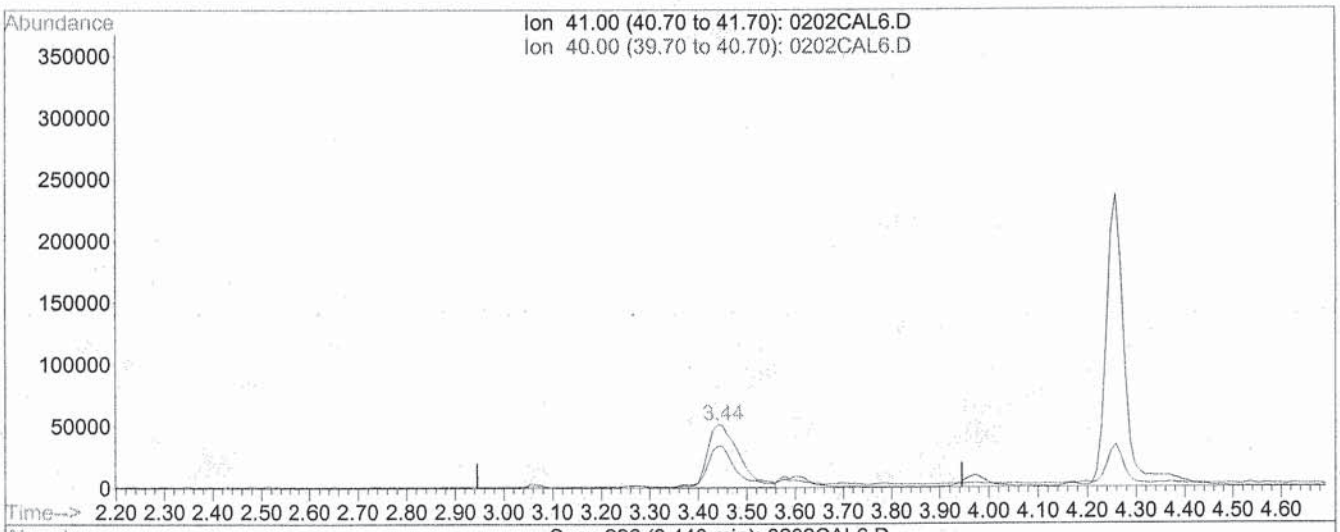


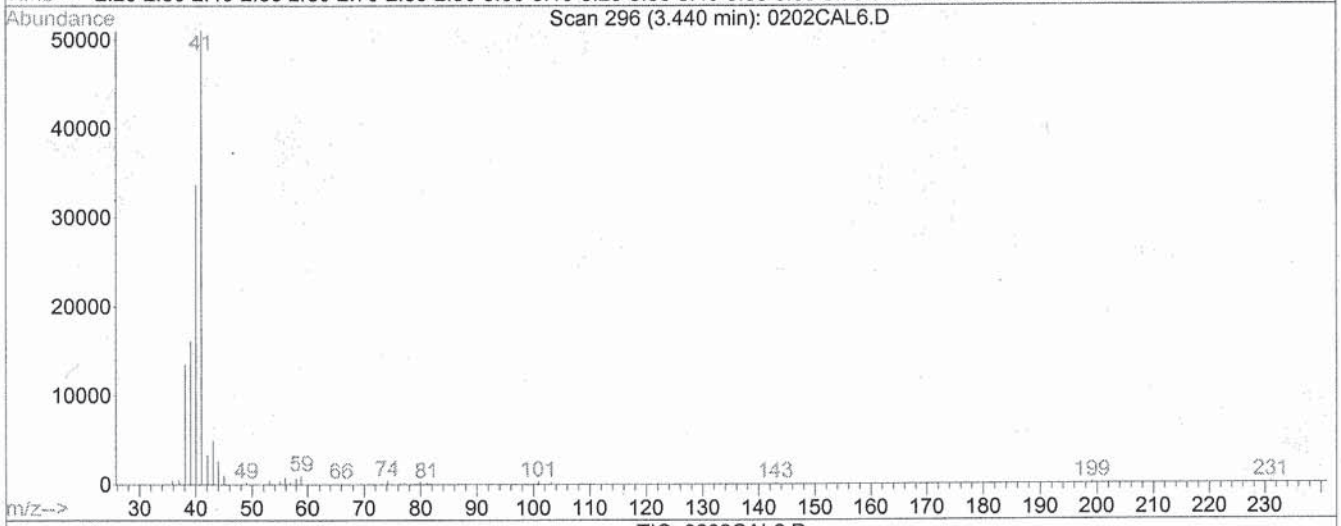
Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL6.D
Acq On : 2 Feb 2015 12:57 pm
Sample : SEQ-CAL6
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:14 2015

Vial: 8
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:14:42 2015
Response via : Multiple Level Calibration





TIC: 0202CAL6.D

(10) Acetonitrile (M)

3.44min 290.04ug/L

response 235653

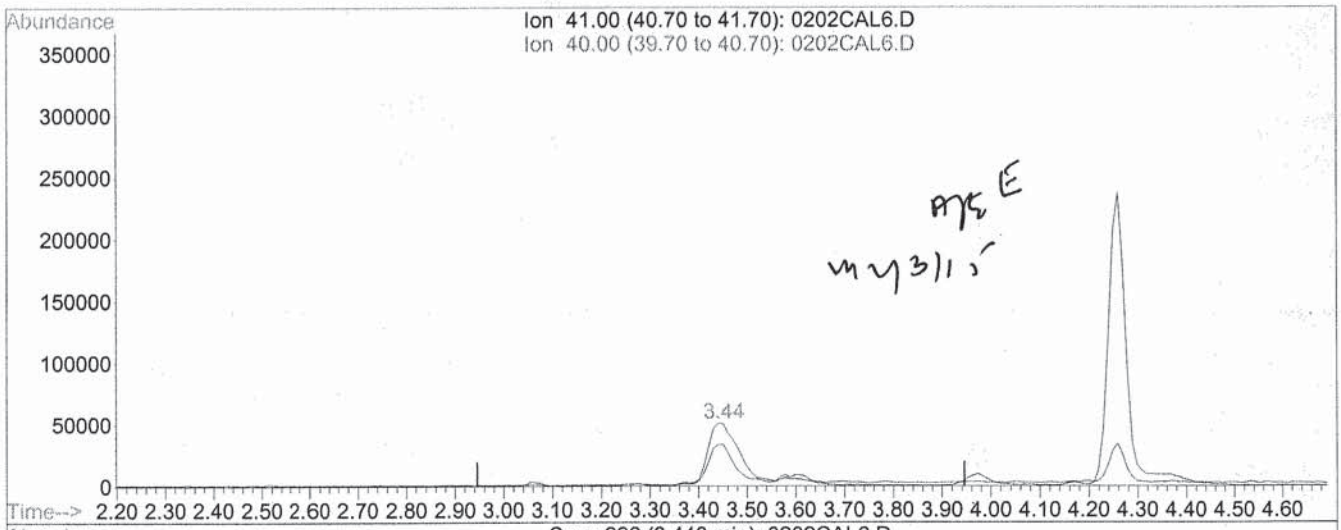
Ion	Exp%	Act%
41.00	100	100
40.00	39.40	56.48#
0.00	0.00	0.00
0.00	0.00	0.00

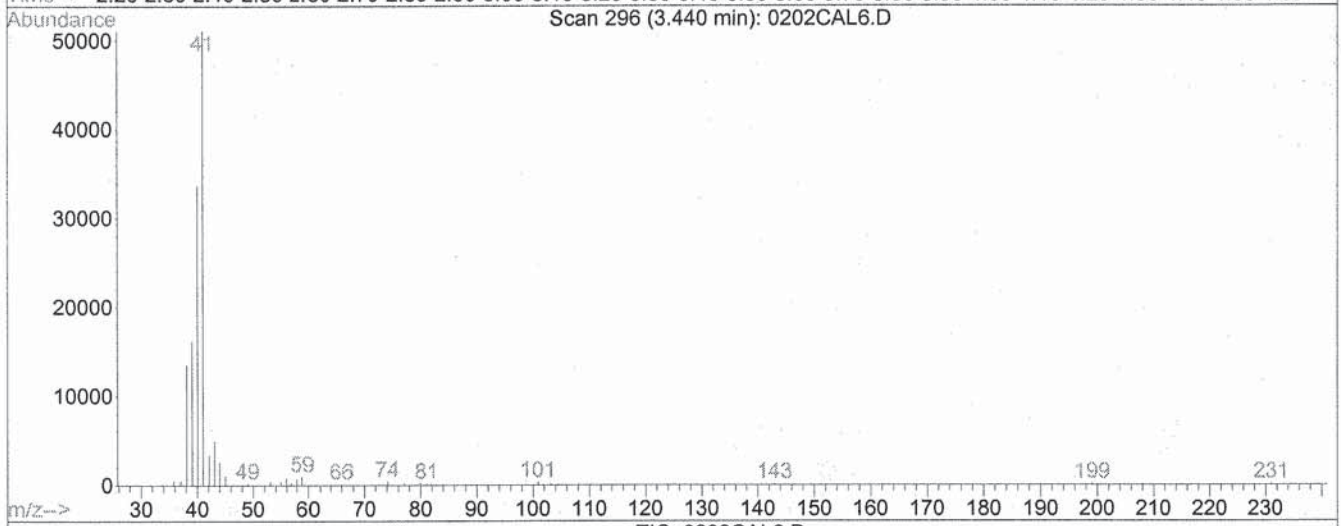
0202CAL6.D 020215W6.M Tue Feb 03 06:15:03 2015

Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL6.D Vial: 8
Acq On : 2 Feb 2015 12:57 pm Operator:
Sample : SEQ-CAL6 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:15 2015 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:14:42 2015
Response via : Multiple Level Calibration





TIC: 0202CAL6.D

(10) Acetonitrile (M)

3.44min 341.94ug/L m

response 277819

Ion	Exp%	Act%
41.00	100	100
40.00	39.40	47.91#
0.00	0.00	0.00
0.00	0.00	0.00

02/05/15

0202CAL6.D 020215W6.M Tue Feb 03 06:15:06 2015

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL7.D Vial: 9
Acq On : 2 Feb 2015 1:24 pm Operator:
Sample : SEQ-CAL7 ALSO CCV1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:13 2015 Quant Results File: 020215W6.RES

02/05/15

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:13:18 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.58	96	801093	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.70	82	340436	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.09	152	293475	30.00	ug/L	0.00
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	314382	30.99	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 103.30%			
42) 1,2-Dichloroethane-d4	7.04	102	54960	29.64	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 98.80%			
61) Toluene-d8	9.27	98	777208	30.80	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 102.67%			
82) Bromofluorobenzene	11.88	95	343506	32.02	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 106.73%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.78	85	1173178	151.2474	ug/L	100
3) Chloromethane	1.98	50	488262	121.6843	ug/L	99
4) Vinyl chloride	2.12	62	355860	124.1562	ug/L	100
5) Bromomethane	2.52	94	400629	128.2589	ug/L	100
6) Chloroethane	2.64	64	255164	115.1217	ug/L	98
7) Trichlorofluoromethane	3.09	101	1419941	133.3291	ug/L	99
8) Acrolein	3.27	56	224516	525.7265	ug/L	99
9) Acetone	3.38	43	438033	224.1947	ug/L	99
10) Acetonitrile	3.45	41	598524m	662.6971	ug/L	
11) Ethyl Ether	3.49	59	300566	58.9372	ug/L	98
12) 1,1-Dichloroethene	3.81	96	721467	103.0268	ug/L	93
13) Trichlorotrifluoroethane	3.89	101	848739	109.6838	ug/L	91
14) Iodomethane	4.01	142	1742238	128.2559	ug/L	98
15) t-Butyl Alcohol	3.97	59	327753	464.6621	ug/L	99
16) Methyl Acetate	4.18	43	585979	79.9719	ug/L	98
17) Acrylonitrile	4.19	53	1417994	431.7154	ug/L	99
18) Allyl chloride	4.26	76	349004	96.4103	ug/L	85
19) Methylene chloride	4.31	84	831787	95.4018	ug/L	95
20) Carbon disulfide	4.35	76	2709518	104.1149	ug/L	99
21) trans-1,2-dichloroethene	4.99	96	717074	94.7890	ug/L	91
22) MTBE	5.00	73	2045538	104.3005	ug/L	99
23) 1,1-Dichloroethane	5.39	63	1480411	100.0661	ug/L	98
24) Vinyl acetate	5.47	43	3773370	173.4982	ug/L	97
25) Propionitrile	5.57	54	1034375	886.8193	ug/L	99
26) Hexane	5.60	57	489886	81.0230	ug/L	89
27) Chloroprene	5.65	53	1425716	110.9331	ug/L	97
28) Di-isopropyl ether	5.77	45	2869865	82.5330	ug/L	98
29) 2-Butanone	5.85	43	906477	181.7315	ug/L	98
30) Methacrylonitrile	6.03	41	4477084	797.8809	ug/L	88
31) cis-1,2-Dichloroethene	6.11	96	793125	88.7180	ug/L	94
32) Ethyl Acetate	6.24	43	1200278	105.9339	ug/L	99
33) 2,2-Dichloropropane	6.22	77	1167913	103.1906	ug/L	97
34) ETBE	6.25	59	2420151	93.1776	ug/L	97
35) Chloroform	6.37	83	1588106	103.6475	ug/L	100
36) Bromochloromethane	6.39	128	503938	96.5478	ug/L	98
37) Isobutyl alcohol	6.48	42	275135	1434.8017	ug/L	98
39) Tetrahydrofuran	6.58	72	72394	92.8761	ug/L	95
40) tert-Amyl alcohol	6.76	59	253255	506.9556	ug/L	98
41) 1,1,1-Trichloroethane	6.94	97	1486808	118.3740	ug/L	99

(#) = qualifier out of range (m) = manual integration
0202CAL7.D 020215W6.M Tue Feb 03 06:14:31 2015 Page 1

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL7.D Vial: 9
Acq On : 2 Feb 2015 1:24 pm Operator:
Sample : SEQ-CAL7 ALSO CCV1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:13 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:13:18 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloroethane	7.14	62	1484727	116.8273	ug/L	#	98
44)	1,1-Dichloropropene	7.15	75	1068258	99.3613	ug/L		99
45)	Cyclohexane	7.20	56	980649	86.1999	ug/L		100
46)	Carbon tetrachloride	7.27	117	1400846	121.2230	ug/L		99
47)	Benzene	7.31	78	2701148	96.4608	ug/L		100
48)	tert- Amyl Methyl Ether	7.51	73	2052782	101.8499	ug/L		99
49)	Trichloroethene	8.08	95	891448	103.3041	ug/L		100
50)	1,2-Dichloropropane	8.13	63	747011	93.8596	ug/L		90
51)	Dibromomethane	8.24	93	732099	110.2418	ug/L		97
52)	Methyl methacrylate	8.27	41	822589	96.8370	ug/L		98
53)	1,4-Dioxane	8.29	88	158253	2195.0780	ug/L		96
54)	Bromodichloromethane	8.31	83	1216407	112.6756	ug/L		99
55)	tert- Amyl Ethyl Ether	8.40	59	2134448	97.3544	ug/L		98
56)	Methyl cyclohexane	8.45	83	754237	97.1001	ug/L		97
57)	2-Chloroethyl vinyl ether	8.67	63	894590	226.7815	ug/L		99
58)	4-Methyl-2-pentanone	8.81	43	1670207	180.6651	ug/L		97
59)	cis-1,3-Dichloropropene	8.88	75	1262705	97.6886	ug/L		90
62)	trans-1,3-Dichloropropene	9.36	75	1202897	101.6450	ug/L		88
63)	Toluene	9.35	92	1408335	89.7965	ug/L		97
64)	1,1,2-Trichloroethane	9.51	83	565906	94.4485	ug/L		99
65)	Ethyl methacrylate	9.56	69	855225	91.2435	ug/L		91
66)	2-Hexanone	9.67	43	1118287	179.1497	ug/L		96
67)	1,3-Dichloropropane	9.71	76	1071353	96.1521	ug/L		98
68)	Dibromochloromethane	9.97	129	1147980	111.7936	ug/L		100
69)	Tetrachloroethene	10.08	166	883722	98.0487	ug/L		98
70)	1,2-Dibromoethane	10.18	107	897581	105.4973	ug/L		99
71)	1-Chlorohexane	10.71	91	726669	92.9526	ug/L		92
72)	Chlorobenzene	10.73	112	1753425	93.5287	ug/L		99
73)	1,1,1,2-Tetrachloroethane	10.78	131	836219	102.7627	ug/L		98
74)	Ethylbenzene	10.89	91	3071864	100.8378	ug/L		96
75)	m,p-Xylene	11.00	91	4387058	192.9713	ug/L		93
76)	Styrene	11.35	104	1793337	94.2507	ug/L		95
77)	o-Xylene	11.38	91	2240290	96.8206	ug/L		95
78)	Bromoform	11.45	173	833284	113.5096	ug/L		99
79)	Cyclohexanone	11.50	55	132631	33.8348	ug/L		98
80)	Isopropylbenzene	11.78	105	2702929	100.1444	ug/L		97
81)	1,2,3-Trichloropropane	11.83	110	284589	105.5401	ug/L		86
84)	cis-1,4-Dichloro-2-butene	11.55	53	378871	124.5194	ug/L		98
85)	1,1,2,2-Tetrachloroethane	11.71	83	859343	106.1782	ug/L		99
86)	trans-1,4-Dichloro-2-buten	11.86	53	338180	118.9489	ug/L		77
87)	Bromobenzene	12.04	156	907163	103.8806	ug/L		98
88)	n-Propylbenzene	12.19	91	3058003	109.5646	ug/L		98
89)	2-Chlorotoluene	12.27	91	1989741	108.6834	ug/L		98
90)	4-Chlorotoluene	12.33	91	2376751	109.6455	ug/L		97
91)	1,3,5-Trimethylbenzene	12.37	105	2146731	108.5177	ug/L		96
92)	tert-Butylbenzene	12.70	119	1781796	106.0050	ug/L		97
93)	1,2,4-Trimethylbenzene	12.73	105	2230030	108.4900	ug/L		97
94)	sec-Butylbenzene	12.94	105	2255574	106.5494	ug/L		99
95)	1,3-Dichlorobenzene	13.02	146	1403682	103.1995	ug/L		99
96)	1,4-Dichlorobenzene	13.11	146	1414435	99.9545	ug/L		99
97)	p-Isopropyltoluene	13.08	119	1795328	105.2495	ug/L		99
98)	1,2-Dichlorobenzene	13.42	146	1392106	103.1208	ug/L		99
99)	n-Butylbenzene	13.47	91	1744197	109.7203	ug/L		97

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

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL7.D Vial: 9
Acq On : 2 Feb 2015 1:24 pm Operator:
Sample : SEQ-CAL7 ALSO CCV1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:13 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:13:18 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

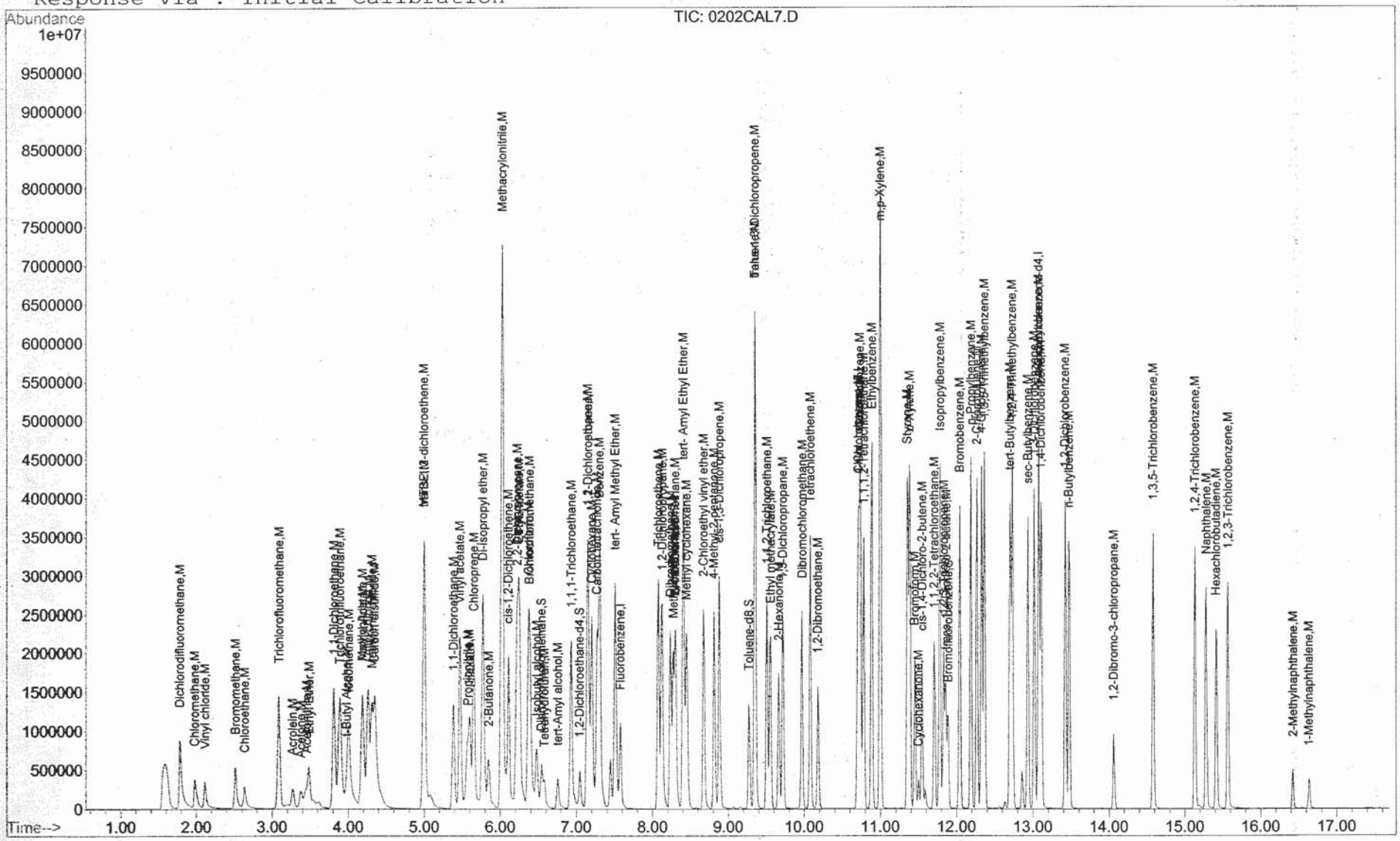
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
100) 1,2-Dibromo-3-chloropropan	14.06	157	207612	118.2542 ug/L	99
101) 1,3,5-Trichlorobenzene	14.58	180	1014498	105.8102 ug/L	100
102) 1,2,4-Trichlorobenzene	15.14	180	980191	108.3463 ug/L	100
103) Naphthalene	15.28	128	2109360	111.1861 ug/L	100
104) Hexachlorobutadiene	15.42	225	465161	110.1341 ug/L	100
105) 1,2,3-Trichlorobenzene	15.57	180	867398	107.3965 ug/L	100
106) 2-Methylnaphthalene	16.43	142	216272	30.2300 ug/L	98
107) 1-Methylnaphthalene	16.64	142	172867	29.2490 ug/L	100

(#) = qualifier out of range (m) = manual integration
0202CAL7.D 020215W6.M Tue Feb 03 06:14:32 2015 Page 3

Quantitation Report

Data File : D:\DATA\020215V6\0202CAL7.D Vial: 9
Acq On : 2 Feb 2015 1:24 pm Operator:
Sample : SEQ-CAL7 ALSO CCV1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:13 2015 Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:13:18 2015
Response via : Initial Calibration

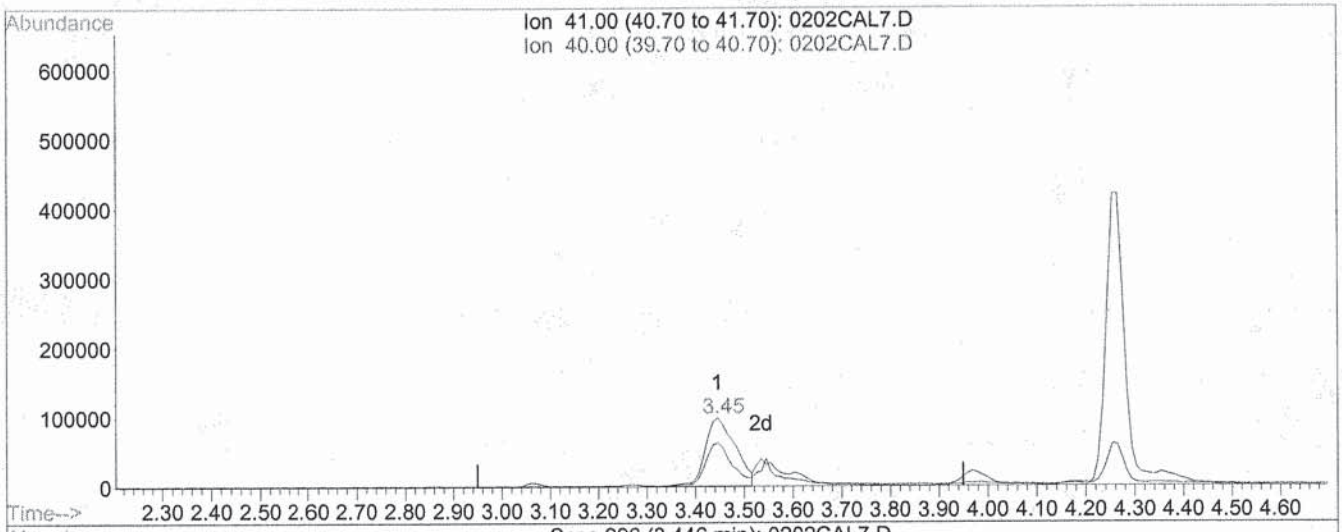


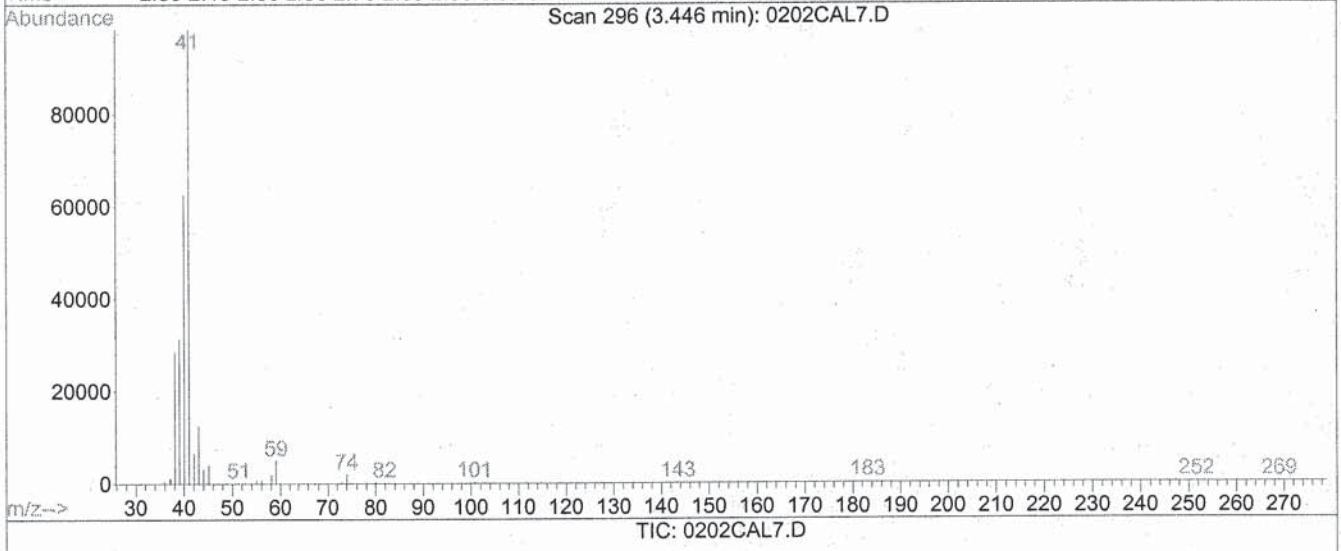
130
1501102

Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL7.D Vial: 9
Acq On : 2 Feb 2015 1:24 pm Operator:
Sample : SEQ-CAL7 ALSO CCV1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:13 2015 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:13:18 2015
Response via : Multiple Level Calibration





TIC: 0202CAL7.D

(10) Acetonitrile (M)

3.45min 466.90ug/L

response 421689

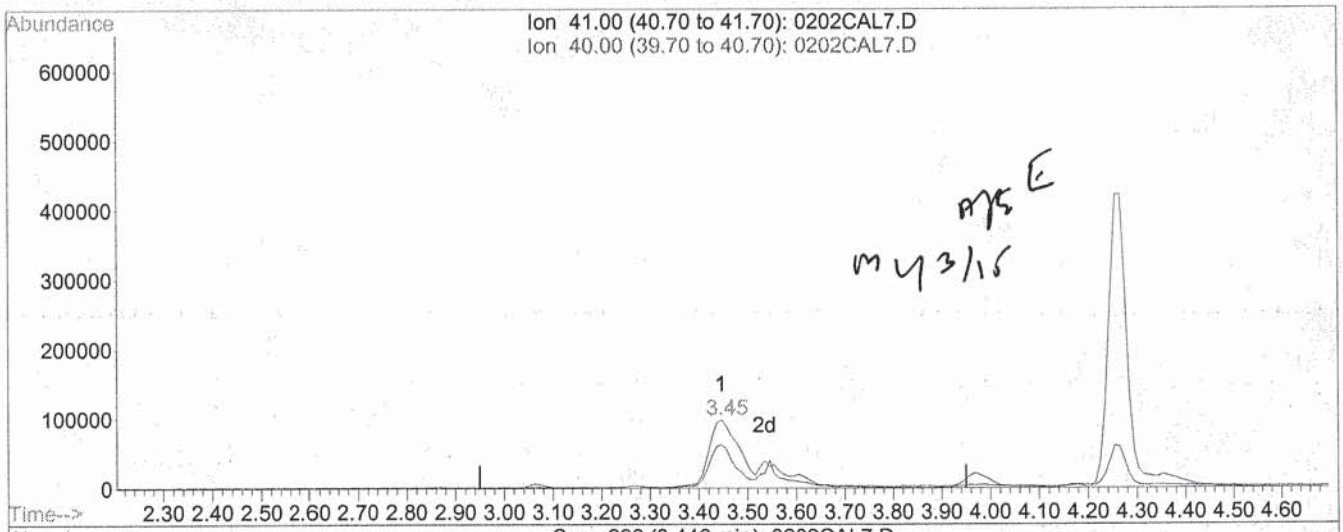
Ion	Exp%	Act%
41.00	100	100
40.00	43.10	55.95#
0.00	0.00	0.00
0.00	0.00	0.00

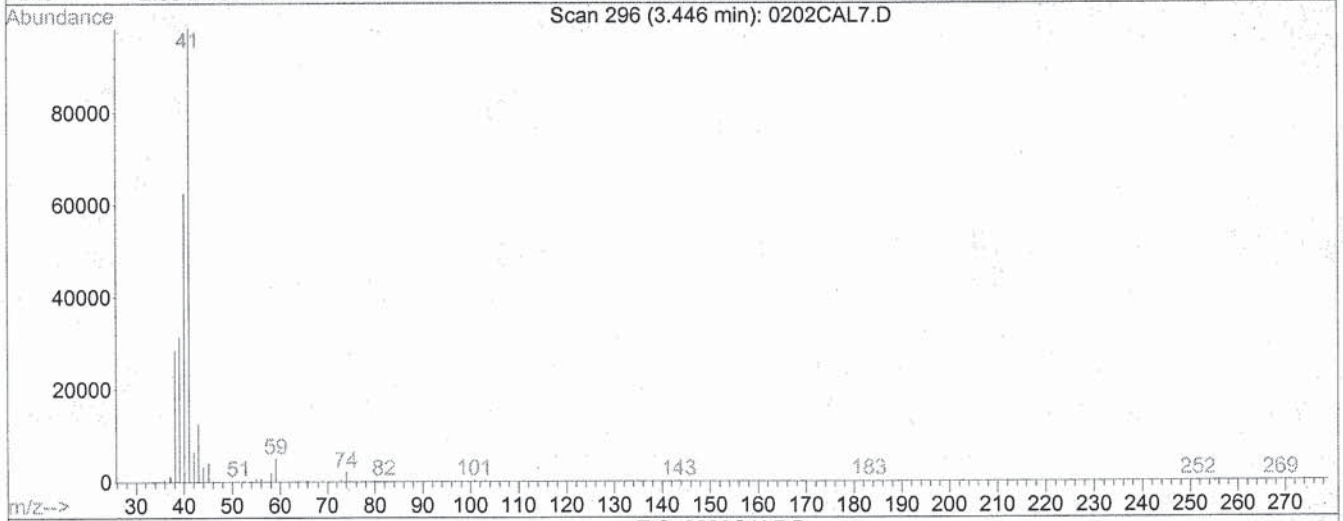
0202CAL7.D 020215W6.M Tue Feb 03 06:13:44 2015

Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL7.D Vial: 9
Acq On : 2 Feb 2015 1:24 pm Operator:
Sample : SEQ-CAL7 ALSO CCV1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:13 2015 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:13:18 2015
Response via : Multiple Level Calibration





TIC: 0202CAL7.D

(10) Acetonitrile (M)

3.45min 662.70ug/L m

response 598524

Ion	Exp%	Act%
41.00	100	100
40.00	43.10	39.42
0.00	0.00	0.00
0.00	0.00	0.00

02/05/15

0202CAL7.D 020215W6.M Tue Feb 03 06:13:48 2015

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL8.D Vial: 10
Acq On : 2 Feb 2015 1:52 pm Operator:
Sample : SEQ-CAL8 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:12 2015 Quant Results File: 020215W6.RES

02/05/15

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:12:07 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.58	96	797570	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.69	82	328371	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.08	152	271531	30.00	ug/L	0.00
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	313618	31.05	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 103.50%			
42) 1,2-Dichloroethane-d4	7.05	102	56961	30.85	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 102.83%			
61) Toluene-d8	9.27	98	773553	31.79	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 105.97%			
82) Bromofluorobenzene	11.89	95	338448	32.71	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 109.03%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.78	85	1864389	241.4208	ug/L	100
3) Chloromethane	1.98	50	742106	185.7640	ug/L	99
4) Vinyl chloride	2.11	62	601761	210.8762	ug/L	100
5) Bromomethane	2.51	94	652967	209.9667	ug/L	98
6) Chloroethane	2.63	64	398776	180.7094	ug/L	100
7) Trichlorofluoromethane	3.09	101	2315500	218.3803	ug/L	99
8) Acrolein	3.27	56	354690	834.2105	ug/L	97
9) Acetone	3.38	43	709934	364.9646	ug/L	99
10) Acetonitrile	3.45	41	983605m	1092.9532	ug/L	
11) Ethyl Ether	3.48	59	502897	99.0474	ug/L	98
12) 1,1-Dichloroethene	3.81	96	1128879	161.9181	ug/L	97
13) Trichlorotrifluoroethane	3.89	101	1347989	174.9721	ug/L	91
14) Iodomethane	4.00	142	2805594	207.4477	ug/L	99
15) t-Butyl Alcohol	3.97	59	567510	808.1243	ug/L	98
16) Methyl Acetate	4.17	43	955932	131.0377	ug/L	100
17) Acrylonitrile	4.19	53	2259457	690.9416	ug/L	98
18) Allyl chloride	4.26	76	523710	145.3108	ug/L	89
19) Methylene chloride	4.31	84	1291482	148.7808	ug/L	98
20) Carbon disulfide	4.35	76	4269168	164.7701	ug/L	100
21) trans-1,2-dichloroethene	5.00	96	1051034	139.5484	ug/L	97
22) MTBE	5.00	73	3181518	162.9399	ug/L	100
23) 1,1-Dichloroethane	5.38	63	2350798	159.6004	ug/L	99
24) Vinyl acetate	5.47	43	6459156	298.3015	ug/L	99
25) Propionitrile	5.57	54	1620290	1395.2885	ug/L	98
26) Hexane	5.60	57	760888	126.4002	ug/L	90
27) Chloroprene	5.66	53	2287488	178.7727	ug/L	98
28) Di-isopropyl ether	5.78	45	4523380	130.6603	ug/L	99
29) 2-Butanone	5.85	43	1447549	291.4881	ug/L	99
30) Methacrylonitrile	6.03	41	6899210	1234.9698	ug/L	94
31) cis-1,2-Dichloroethene	6.11	96	1204227	135.2983	ug/L	97
32) Ethyl Acetate	6.23	43	1901148	168.5323	ug/L	99
33) 2,2-Dichloropropane	6.22	77	1893606	168.0480	ug/L	99
34) ETBE	6.25	59	3809586	147.3198	ug/L	99
35) Chloroform	6.37	83	2486071	162.9697	ug/L	100
36) Bromochloromethane	6.40	128	761600	146.5569	ug/L	100
37) Isobutyl alcohol	6.48	42	483834	2534.2913	ug/L	95
39) Tetrahydrofuran	6.57	72	114485	147.5245	ug/L	91
40) tert-Amyl alcohol	6.75	59	419207	842.8583	ug/L	99
41) 1,1,1-Trichloroethane	6.93	97	2389352	191.0715	ug/L	100

(#) = qualifier out of range (m) = manual integration
0202CAL8.D 020215W6.M Tue Feb 03 06:13:09 2015 Page 1

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL8.D Vial: 10
Acq On : 2 Feb 2015 1:52 pm Operator:
Sample : SEQ-CAL8 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:12 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:12:07 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43)	1,2-Dichloroethane	7.14	62	2434040	192.3709	ug/L	99
44)	1,1-Dichloropropene	7.16	75	1611936	150.5923	ug/L	99
45)	Cyclohexane	7.21	56	1480071	130.6743	ug/L	99
46)	Carbon tetrachloride	7.27	117	2291329	199.1572	ug/L	99
47)	Benzene	7.30	78	3989071	143.0831	ug/L	100
48)	tert- Amyl Methyl Ether	7.51	73	3127465	155.8563	ug/L	100
49)	Trichloroethene	8.07	95	1359016	158.1832	ug/L	99
50)	1,2-Dichloropropane	8.12	63	1118177	141.1160	ug/L	94
51)	Dibromomethane	8.23	93	1140414	172.4858	ug/L	98
52)	Methyl methacrylate	8.27	41	1285586	152.0106	ug/L	99
53)	1,4-Dioxane	8.29	88	237590	3310.0938	ug/L	98
54)	Bromodichloromethane	8.30	83	1943282	180.8010	ug/L	100
55)	tert- Amyl Ethyl Ether	8.41	59	3230161	147.9818	ug/L	98
56)	Methyl cyclohexane	8.45	83	1131602	146.3254	ug/L	95
57)	2-Chloroethyl vinyl ether	8.67	63	1299444	330.8683	ug/L	99
58)	4-Methyl-2-pentanone	8.81	43	2594198	281.8520	ug/L	98
59)	cis-1,3-Dichloropropene	8.88	75	1911513	148.5366	ug/L	95
62)	trans-1,3-Dichloropropene	9.35	75	1810140	158.5771	ug/L	95
63)	Toluene	9.34	92	1986899	131.3409	ug/L	98
64)	1,1,2-Trichloroethane	9.51	83	838661	145.1135	ug/L	99
65)	Ethyl methacrylate	9.55	69	1269562	140.4255	ug/L	97
66)	2-Hexanone	9.66	43	1728182	287.0272	ug/L	98
67)	1,3-Dichloropropane	9.72	76	1610895	149.8870	ug/L	99
68)	Dibromochloromethane	9.96	129	1803048	182.0374	ug/L	100
69)	Tetrachloroethene	10.08	166	1345891	154.8128	ug/L	99
70)	1,2-Dibromoethane	10.18	107	1381975	168.3987	ug/L	100
71)	1-Chlorohexane	10.71	91	1034295	137.1640	ug/L	97
72)	Chlorobenzene	10.73	112	2573082	142.2925	ug/L	99
73)	1,1,1,2-Tetrachloroethane	10.78	131	1317833	167.8984	ug/L	99
74)	Ethylbenzene	10.88	91	4639014	157.8765	ug/L	97
75)	m,p-Xylene	11.00	91	6602068	301.0717	ug/L	97
76)	Styrene	11.35	104	2582476	140.7115	ug/L	98
77)	o-Xylene	11.38	91	3319597	148.7372	ug/L	98
78)	Bromoform	11.45	173	1345421	190.0064	ug/L	100
79)	Cyclohexanone	11.50	55	184309	48.7456	ug/L	99
80)	Isopropylbenzene	11.78	105	4079867	156.7144	ug/L	99
81)	1,2,3-Trichloropropane	11.83	110	437395	168.1681	ug/L	97
84)	cis-1,4-Dichloro-2-butene	11.55	53	606251	215.3525	ug/L	99
85)	1,1,2,2-Tetrachloroethane	11.71	83	1266821	169.1748	ug/L	99
86)	trans-1,4-Dichloro-2-buten	11.86	53	548702	208.5935	ug/L	95
87)	Bromobenzene	12.04	156	1361423	168.4977	ug/L	99
88)	n-Propylbenzene	12.18	91	4531106	175.4642	ug/L	100
89)	2-Chlorotoluene	12.27	91	2986127	176.2895	ug/L	100
90)	4-Chlorotoluene	12.33	91	3531000	176.0583	ug/L	98
91)	1,3,5-Trimethylbenzene	12.37	105	3226157	176.2627	ug/L	99
92)	tert-Butylbenzene	12.70	119	2652530	170.5612	ug/L	99
93)	1,2,4-Trimethylbenzene	12.73	105	3331104	175.1535	ug/L	99
94)	sec-Butylbenzene	12.94	105	3337598	170.4039	ug/L	99
95)	1,3-Dichlorobenzene	13.02	146	2074525	164.8463	ug/L	100
96)	1,4-Dichlorobenzene	13.11	146	2084934	159.2441	ug/L	99
97)	p-Isopropyltoluene	13.08	119	2710411	171.7367	ug/L	100
98)	1,2-Dichlorobenzene	13.42	146	2082248	166.7087	ug/L	100
99)	n-Butylbenzene	13.47	91	2580894	175.4743	ug/L	98

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

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL8.D Vial: 10
Acq On : 2 Feb 2015 1:52 pm Operator:
Sample : SEQ-CAL8 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:12 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:12:07 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
100)	1,2-Dibromo-3-chloropropan	14.06	157	317810	195.6515	ug/L	99
101)	1,3,5-Trichlorobenzene	14.59	180	1552751	175.0371	ug/L	100
102)	1,2,4-Trichlorobenzene	15.13	180	1510302	180.4342	ug/L	99
103)	Naphthalene	15.28	128	3187333	181.5845	ug/L	100
104)	Hexachlorobutadiene	15.42	225	748734	191.6010	ug/L	99
105)	1,2,3-Trichlorobenzene	15.56	180	1352105	180.9396	ug/L	100
106)	2-Methylnaphthalene	16.42	142	338942	51.2053	ug/L	100
107)	1-Methylnaphthalene	16.64	142	278009	50.8405	ug/L	99

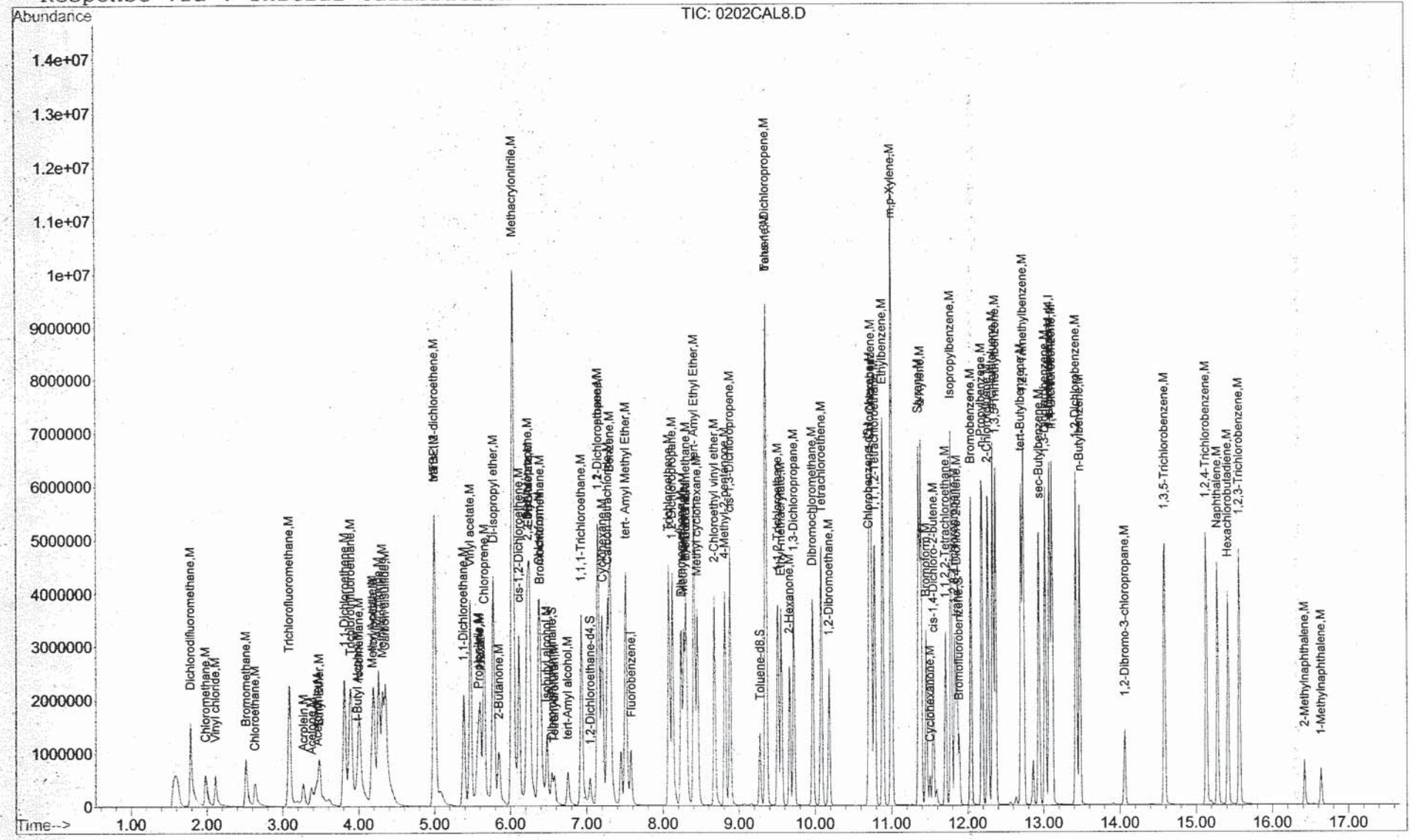
(#) = qualifier out of range (m) = manual integration
0202CAL8.D 020215W6.M Tue Feb 03 06:13:10 2015 Page 3

Quantitation Report

Data File : D:\DATA\020215V6\0202CAL8.D
Acq On : 2 Feb 2015 1:52 pm
Sample : SEQ-CAL8
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:12 2015

Vial: 10
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:12:07 2015
Response via : Initial Calibration

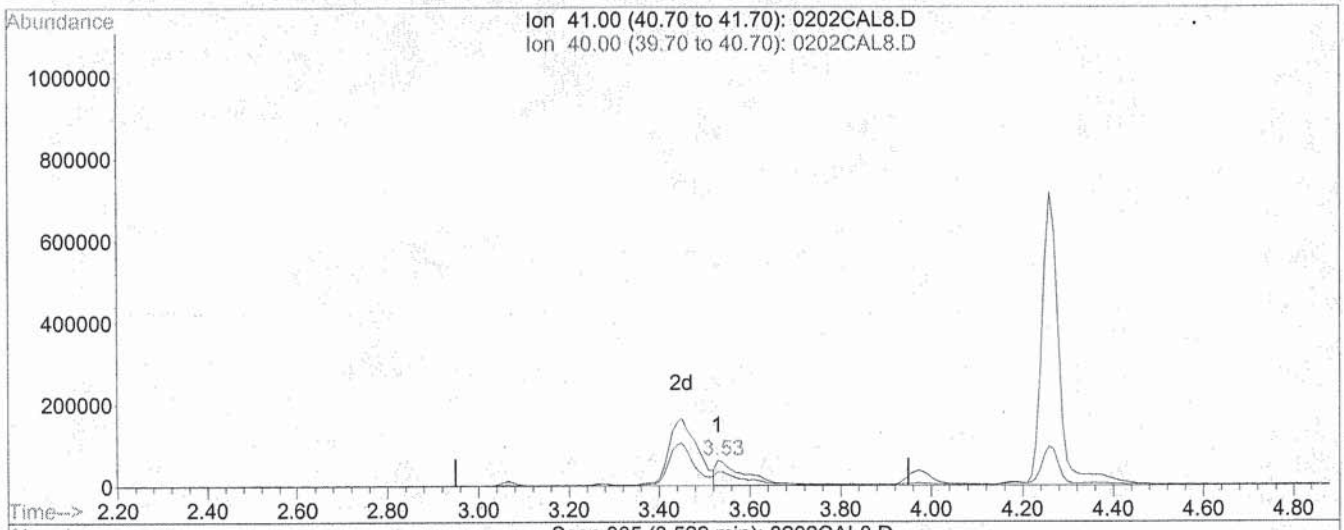


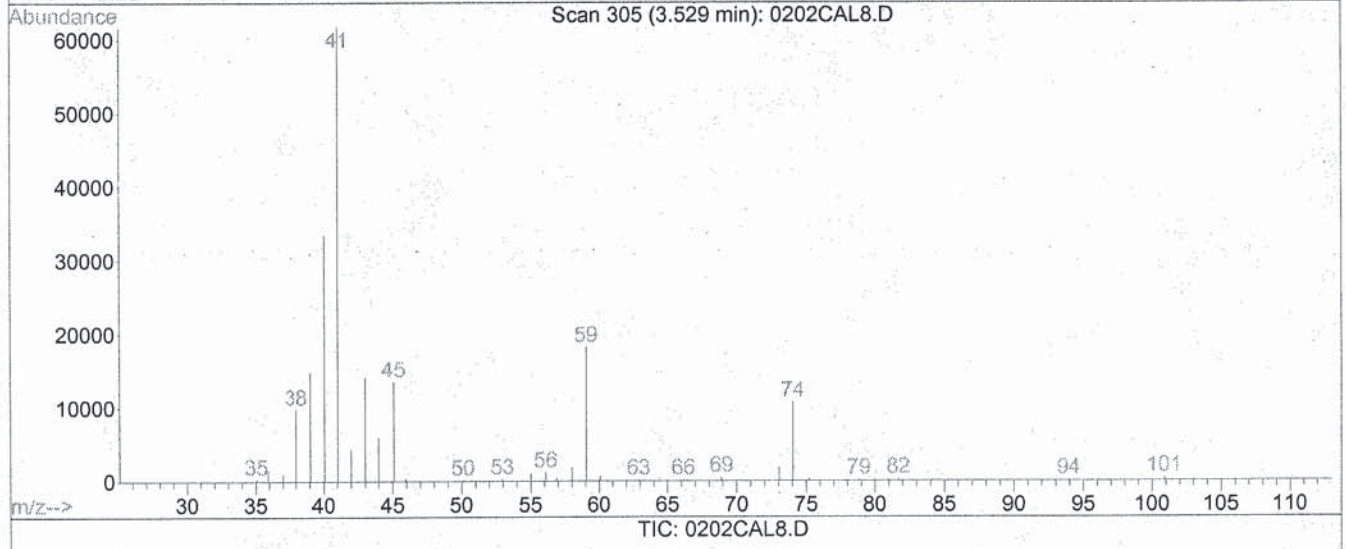
Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL8.D
Acq On : 2 Feb 2015 1:52 pm
Sample : SEQ-CAL8
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:12 2015

Vial: 10
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:12:07 2015
Response via : Multiple Level Calibration





TIC: 0202CAL8.D

(10) Acetonitrile (M)

3.53min 291.72ug/L

response 262535

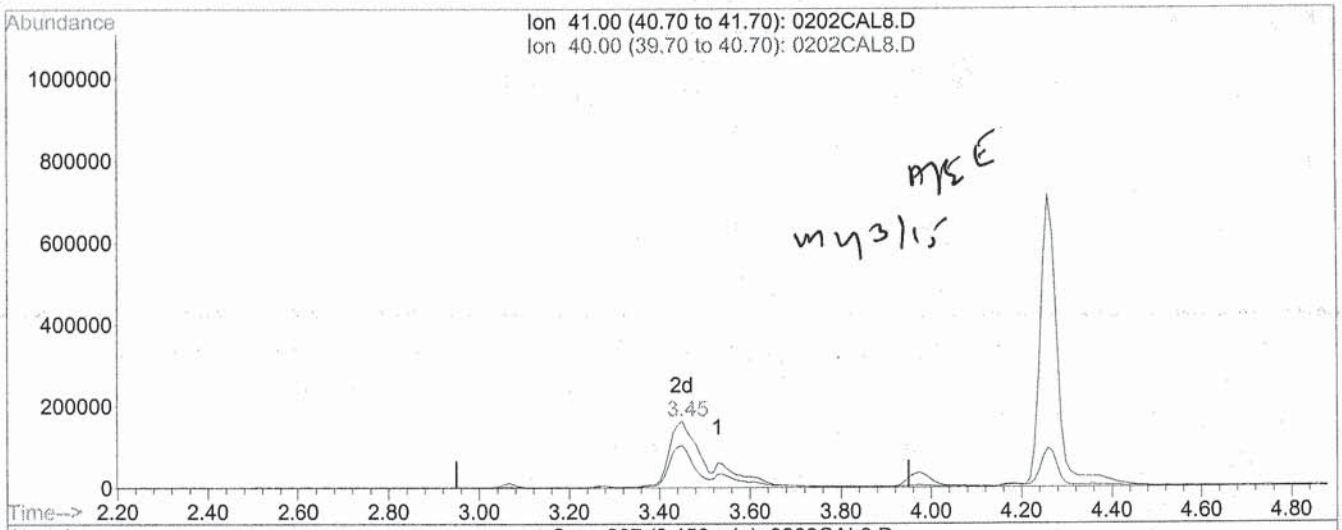
Ion	Exp%	Act%
41.00	100	100
40.00	43.10	45.04
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

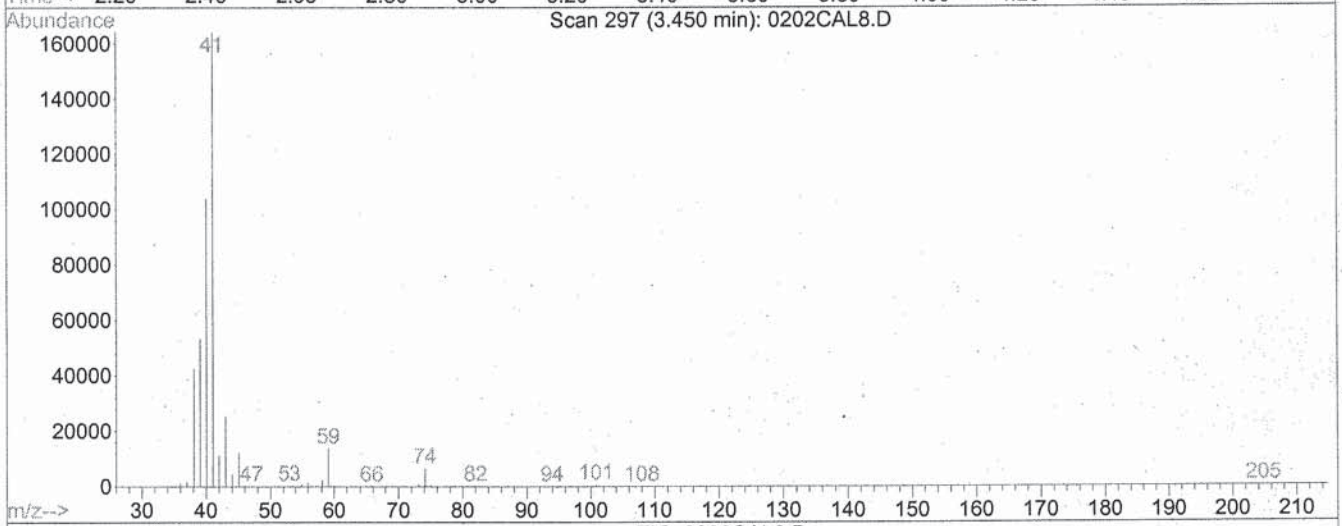
Data File : D:\DATA\020215V6\0202CAL8.D
Acq On : 2 Feb 2015 1:52 pm
Sample : SEQ-CAL8
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:12 2015

Vial: 10
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:12:07 2015
Response via : Multiple Level Calibration



PYE
m43/15



TIC: 0202CAL8.D

(10) Acetonitrile (M)

3.45min 1092.95ug/L m

response 983605

Ion	Exp%	Act%
41.00	100	100
40.00	43.10	12.02#
0.00	0.00	0.00
0.00	0.00	0.00

02/05/15

0202CAL8.D 020215W6.M Tue Feb 03 06:12:27 2015

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL9.D Vial: 11
Acq On : 2 Feb 2015 2:19 pm Operator:
Sample : SEQ-CAL9 / Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00

02/05/15

MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:11 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:10:58 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

mm 3/1,5

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	7.58	96	769346	30.00	ug/L		0.00
60) Chlorobenzene-d5	10.69	82	329872	30.00	ug/L		0.00
83) 1,4-Dichlorobenzene-d4	13.09	152	267393	30.00	ug/L		0.00
System Monitoring Compounds							
38) Dibromofluoromethane	6.54	111	318594	32.70	ug/L		0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 109.00%				
42) 1,2-Dichloroethane-d4	7.05	102	54017	30.43	ug/L		0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 101.43%				
61) Toluene-d8	9.27	98	765149	31.30	ug/L		0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 104.33%				
82) Bromofluorobenzene	11.89	95	331750	31.92	ug/L		0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 106.40%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.78	85	2625065	352.3914	ug/L		100
3) Chloromethane	1.98	50	1003401	260.3858	ug/L		99
4) Vinyl chloride	2.11	62	938504	340.9469	ug/L		100
5) Bromomethane	2.51	94	921790	307.2828	ug/L		98
6) Chloroethane	2.64	64	528269	248.1727	ug/L		100
7) Trichlorofluoromethane	3.10	101	3448743	337.1916	ug/L		99
8) Acrolein	3.27	56	498759	1216.0867	ug/L		97
9) Acetone	3.38	43	957119	510.0888	ug/L		99
10) Acetonitrile	3.45	41	1200013	1382.3369	ug/L	#	19
11) Ethyl Ether	3.49	59	704871	143.9199	ug/L		98
12) 1,1-Dichloroethene	3.81	96	1480148	220.0900	ug/L		97
13) Trichlorotrifluoroethane	3.89	101	1670440	224.7814	ug/L		91
14) Iodomethane	4.01	142	3705633	284.0491	ug/L		99
15) t-Butyl Alcohol	3.97	59	773598	1142.0026	ug/L		98
16) Methyl Acetate	4.18	43	1248001	177.3500	ug/L		100
17) Acrylonitrile	4.20	53	2884411	914.4111	ug/L		98
18) Allyl chloride	4.27	76	694892	199.8809	ug/L		90
19) Methylene chloride	4.32	84	1662968	198.6047	ug/L		98
20) Carbon disulfide	4.36	76	5539291	221.6310	ug/L		100
21) trans-1,2-dichloroethene	5.00	96	1337814	184.1412	ug/L		96
22) MTBE	5.00	73	4205626	223.2907	ug/L		100
23) 1,1-Dichloroethane	5.39	63	3103789	218.4530	ug/L		99
24) Vinyl acetate	5.47	43	8734021	418.1586	ug/L		99
25) Propionitrile	5.58	54	2072586	1850.2522	ug/L		99
26) Hexane	5.60	57	905974	156.0235	ug/L		89
27) Chloroprene	5.66	53	3074816	249.1199	ug/L		98
28) Di-isopropyl ether	5.78	45	5905266	176.8345	ug/L		99
29) 2-Butanone	5.85	43	1893047	395.1810	ug/L		99
30) Methacrylonitrile	6.04	41	9096023	1687.9346	ug/L		95
31) cis-1,2-Dichloroethene	6.12	96	1534474	178.7272	ug/L		96
32) Ethyl Acetate	6.24	43	2482539	228.1447	ug/L		99
33) 2,2-Dichloropropane	6.22	77	2470763	227.3117	ug/L		99
34) ETBE	6.25	59	4982339	199.7393	ug/L		99
35) Chloroform	6.37	83	3282560	223.0762	ug/L		100
36) Bromochloromethane	6.40	128	971220	193.7511	ug/L		100
37) Isobutyl alcohol	6.49	42	601593	3266.7059	ug/L		95
39) Tetrahydrofuran	6.58	72	151381	202.2246	ug/L		92
40) tert-Amyl alcohol	6.76	59	541940	1129.5992	ug/L		99
41) 1,1,1-Trichloroethane	6.93	97	3226006	267.4410	ug/L		100

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

Data File : D:\DATA\020215V6\0202CAL9.D Vial: 11
Acq On : 2 Feb 2015 2:19 pm Operator:
Sample : SEQ-CAL9 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:11 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:10:58 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43)	1,2-Dichloroethane	7.15	62	3291063	269.6466	ug/L	99
44)	1,1-Dichloropropene	7.16	75	2035618	197.1453	ug/L	99
45)	Cyclohexane	7.21	56	1863720	170.5828	ug/L	99
46)	Carbon tetrachloride	7.27	117	3144117	283.3051	ug/L	99
47)	Benzene	7.30	78	4974834	184.9874	ug/L	100
48)	tert- Amyl Methyl Ether	7.51	73	4033286	208.3714	ug/L	100
49)	Trichloroethene	8.07	95	1744840	210.5418	ug/L	100
50)	1,2-Dichloropropane	8.12	63	1388878	181.7092	ug/L	94
51)	Dibromomethane	8.24	93	1466840	229.9962	ug/L	98
52)	Methyl methacrylate	8.27	41	1681770	206.1515	ug/L	99
53)	1,4-Dioxane	8.29	88	286828	4142.6743	ug/L	98
54)	Bromodichloromethane	8.30	83	2554495	246.3866	ug/L	100
55)	tert- Amyl Ethyl Ether	8.41	59	4252366	201.9584	ug/L	98
56)	Methyl cyclohexane	8.45	83	1415790	189.7894	ug/L	95
57)	2-Chloroethyl vinyl ether	8.67	63	1632654	430.9619	ug/L	99
58)	4-Methyl-2-pentanone	8.81	43	3362200	378.6942	ug/L	98
59)	cis-1,3-Dichloropropene	8.88	75	2464226	198.5106	ug/L	95
62)	trans-1,3-Dichloropropene	9.36	75	2353396	205.2309	ug/L	95
63)	Toluene	9.35	92	2430851	159.9565	ug/L	98
64)	1,1,2-Trichloroethane	9.51	83	1050724	180.9794	ug/L	99
65)	Ethyl methacrylate	9.56	69	1617279	178.0723	ug/L	97
66)	2-Hexanone	9.67	43	2248739	371.7850	ug/L	98
67)	1,3-Dichloropropane	9.72	76	2046182	189.5223	ug/L	100
68)	Dibromochloromethane	9.97	129	2425630	243.7796	ug/L	100
69)	Tetrachloroethene	10.08	166	1781210	203.9536	ug/L	99
70)	1,2-Dibromoethane	10.18	107	1822372	221.0522	ug/L	100
71)	1-Chlorohexane	10.71	91	1288650	170.1179	ug/L	97
72)	Chlorobenzene	10.73	112	3294428	181.3543	ug/L	99
73)	1,1,1,2-Tetrachloroethane	10.78	131	1750693	222.0320	ug/L	99
74)	Ethylbenzene	10.89	91	6094685	206.4726	ug/L	97
75)	m,p-Xylene	11.00	91	8866722	402.5060	ug/L	97
76)	Styrene	11.36	104	3309974	179.5300	ug/L	98
77)	o-Xylene	11.38	91	4303502	191.9444	ug/L	98
78)	Bromoform	11.45	173	1787487	251.2883	ug/L	100
79)	Cyclohexanone	11.50	55	225346	59.3278	ug/L	99
80)	Isopropylbenzene	11.79	105	5332973	203.9161	ug/L	99
81)	1,2,3-Trichloropropane	11.84	110	563793	215.7789	ug/L	97
84)	cis-1,4-Dichloro-2-butene	11.55	53	808174	291.5223	ug/L	99
85)	1,1,2,2-Tetrachloroethane	11.71	83	1598805	216.8130	ug/L	99
86)	trans-1,4-Dichloro-2-buten	11.86	53	718284	277.2872	ug/L	95
87)	Bromobenzene	12.04	156	1768835	222.3093	ug/L	99
88)	n-Propylbenzene	12.19	91	5975640	234.9839	ug/L	100
89)	2-Chlorotoluene	12.27	91	3862223	231.5395	ug/L	100
90)	4-Chlorotoluene	12.33	91	4706173	238.2847	ug/L	98
91)	1,3,5-Trimethylbenzene	12.37	105	4288578	237.9346	ug/L	99
92)	tert-Butylbenzene	12.70	119	3461568	226.0280	ug/L	99
93)	1,2,4-Trimethylbenzene	12.73	105	4375927	233.6524	ug/L	99
94)	sec-Butylbenzene	12.94	105	4435455	229.9604	ug/L	99
95)	1,3-Dichlorobenzene	13.02	146	2736615	220.8226	ug/L	100
96)	1,4-Dichlorobenzene	13.11	146	2739542	212.4802	ug/L	99
97)	p-Isopropyltoluene	13.08	119	3624736	233.2242	ug/L	100
98)	1,2-Dichlorobenzene	13.42	146	2716053	220.8175	ug/L	100
99)	n-Butylbenzene	13.47	91	3388125	233.9225	ug/L	98

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

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL9.D Vial: 11
Acq On : 2 Feb 2015 2:19 pm Operator:
Sample : SEQ-CAL9 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:11 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:10:58 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
100)	1,2-Dibromo-3-chloropropan	14.06	157	424076	265.1116 ug/L	99
101)	1,3,5-Trichlorobenzene	14.59	180	2079074	237.9948 ug/L	100
102)	1,2,4-Trichlorobenzene	15.14	180	1970829	239.0966 ug/L	99
103)	Naphthalene	15.29	128	4259548	246.4248 ug/L	100
104)	Hexachlorobutadiene	15.42	225	1025511	266.4894 ug/L	99
105)	1,2,3-Trichlorobenzene	15.57	180	1791358	243.4305 ug/L	100
106)	2-Methylnaphthalene	16.42	142	451268	69.2298 ug/L	100
107)	1-Methylnaphthalene	16.64	142	363510	67.5051 ug/L	99

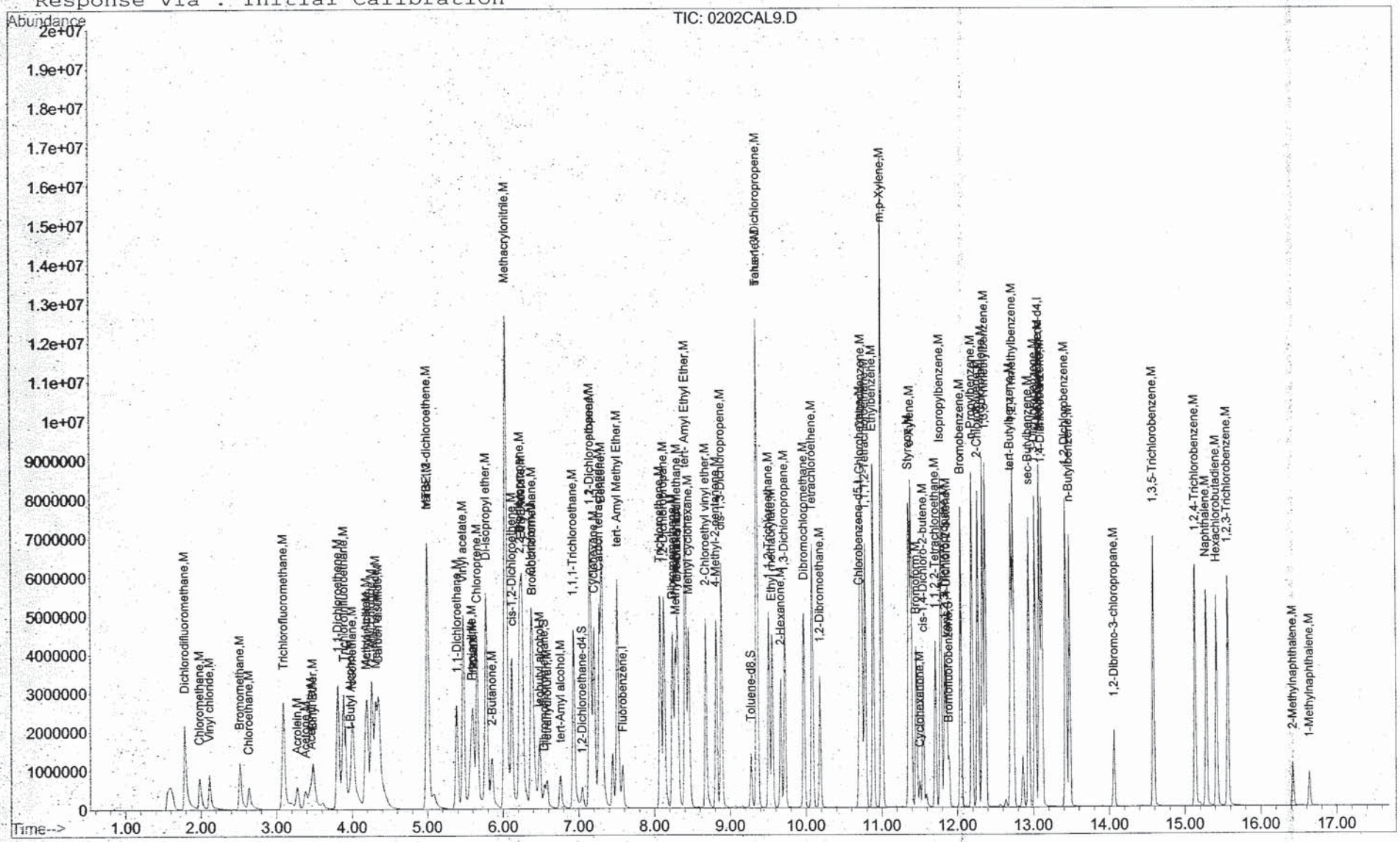
(#) = qualifier out of range (m) = manual integration
0202CAL9.D 020215W6.M Tue Feb 03 06:11:57 2015 Page 3

Quantitation Report

Data File : D:\DATA\020215V6\0202CAL9.D
Acq On : 2 Feb 2015 2:19 pm
Sample : SEQ-CAL9
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:11 2015

Vial: 11
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:10:58 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202ICV1.D Vial: 13
Acq On : 2 Feb 2015 3:14 pm Operator:
Sample : SEQ-ICV1 ALSO LCS1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 8:11 2015 Quant Results File: 020215W6.RES

02/05/15

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	7.58	96	880400	30.00 ug/L	0.00
60) Chlorobenzene-d5	10.69	82	367482	30.00 ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.08	152	331292	30.00 ug/L	0.00
System Monitoring Compounds					
38) Dibromofluoromethane	6.54	111	341800	28.80 ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 96.00%		
42) 1,2-Dichloroethane-d4	7.05	102	59632	28.64 ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 95.47%		
61) Toluene-d8	9.28	98	823410	30.37 ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 101.23%		
82) Bromofluorobenzene	11.89	95	362506	30.82 ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 102.73%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.78	85	579571	47.1195 ug/L	99
3) Chloromethane	1.98	50	292605	57.5702 ug/L	96
4) Vinyl chloride	2.12	62	200548	55.7458 ug/L	97
5) Bromomethane	2.51	94	229426	56.9620 ug/L	99
6) Chloroethane	2.64	64	126178	46.6446 ug/L	97
7) Trichlorofluoromethane	3.09	101	763499	53.5044 ug/L	99
8) Acrolein	3.27	56	108466	218.3028 ug/L	97
9) Acetone	3.37	43	247213	100.3670 ug/L	98
10) Acetonitrile	3.45	41	345289	540.9616 ug/L	100
11) Ethyl Ether	3.48	59	198389	55.8251 ug/L	98
12) 1,1-Dichloroethene	3.81	96	391523	49.1762 ug/L	99
13) Trichlorotrifluoroethane	3.89	101	480795	53.1124 ug/L	97
14) Iodomethane	4.00	142	918095	44.3759 ug/L	99
15) t-Butyl Alcohol	3.97	59	176537m	210.2275 ug/L	
16) Methyl Acetate	4.17	43	359510	51.3989 ug/L	99
17) Acrylonitrile	4.19	53	852934	283.1036 ug/L	98
18) Allyl chloride	4.26	76	195838	51.5897 ug/L	90
19) Methylene chloride	4.31	84	471114	48.2893 ug/L	98
20) Carbon disulfide	4.35	76	1508965	51.2510 ug/L	100
21) trans-1,2-dichloroethene	5.00	96	418301	51.6021 ug/L	98
22) MTBE	5.00	73	1130576	51.4495 ug/L	96
23) 1,1-Dichloroethane	5.38	63	779911	49.5142 ug/L	100
24) Vinyl acetate	5.47	43	2163858	108.5218 ug/L	99
25) Propionitrile	5.56	54	552408	518.6259 ug/L	96
26) Hexane	5.60	57	265575	45.8114 ug/L	95
27) Chloroprene	5.65	53	814662	52.1205 ug/L	98
28) Di-isopropyl ether	5.78	45	1571790	47.2581 ug/L	100
29) 2-Butanone	5.85	43	514026	104.0229 ug/L	100
30) Methacrylonitrile	6.02	41	2750824	506.8684 ug/L	95
31) cis-1,2-Dichloroethene	6.11	96	448924	47.4564 ug/L	99
32) Ethyl Acetate	6.23	43	674898	50.2780 ug/L	98
33) 2,2-Dichloropropane	6.22	77	639195	50.2448 ug/L	99
34) ETBE	6.25	59	1316694	48.3910 ug/L	99
35) Chloroform	6.37	83	874084	48.6443 ug/L	100
36) Bromochloromethane	6.39	128	288512	52.2359 ug/L	99
37) Isobutyl alcohol	6.48	42	145257	853.6035 ug/L	95
39) Tetrahydrofuran	6.57	72	41910	52.9225 ug/L	94
40) tert-Amyl alcohol	6.75	59	130942	215.9178 ug/L	96
41) 1,1,1-Trichloroethane	6.93	97	786526	51.2913 ug/L	99

200548 / 889400 = 0.22779912 × 30 = 55.745 / 0.12259

(#) = qualifier out of range (m) = manual integration
0202ICV1.D 020215W6.M Tue Feb 03 08:11:58 2015 Page 1

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202ICV1.D Vial: 13
Acq On : 2 Feb 2015 3:14 pm Operator:
Sample : SEQ-ICV1 ALSO LCS1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 8:11 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
43)	1,2-Dichloroethane	7.14	62	796781	51.2361 ug/L	99
44)	1,1-Dichloropropene	7.16	75	589479	50.3880 ug/L	98
45)	Cyclohexane	7.21	56	571857	51.2682 ug/L	99
46)	Carbon tetrachloride	7.27	117	734203	50.8787 ug/L	100
47)	Benzene	7.30	78	1489637	50.3083 ug/L	99
48)	tert- Amyl Methyl Ether	7.51	73	1158668	54.0312 ug/L	99
49)	Trichloroethene	8.07	95	491456	51.2029 ug/L	99
50)	1,2-Dichloropropane	8.12	63	423160	51.2547 ug/L	98
51)	Dibromomethane	8.23	93	392726	49.8306 ug/L	99
52)	Methyl methacrylate	8.27	41	446911	53.3339 ug/L	100
53)	1,4-Dioxane	8.28	88	84085	993.7491 ug/L	98
54)	Bromodichloromethane	8.30	83	664616	52.6374 ug/L	100
55)	tert- Amyl Ethyl Ether	8.40	59	1055113	46.9601 ug/L	99
56)	Methyl cyclohexane	8.45	83	422689	50.3516 ug/L	97
57)	2-Chloroethyl vinyl ether	8.67	63	496508	103.9952 ug/L	99
58)	4-Methyl-2-pentanone	8.81	43	903572	104.2715 ug/L	98
59)	cis-1,3-Dichloropropene	8.88	75	691405	52.0655 ug/L	98
62)	trans-1,3-Dichloropropene	9.35	75	610371	50.0506 ug/L	98
63)	Toluene	9.34	92	835333	51.4169 ug/L	100
64)	1,1,2-Trichloroethane	9.50	83	320622	52.1128 ug/L	97
65)	Ethyl methacrylate	9.55	69	485923	58.4860 ug/L	100
66)	2-Hexanone	9.66	43	599856	105.3767 ug/L	98
67)	1,3-Dichloropropane	9.72	76	608536	51.3365 ug/L	99
68)	Dibromochloromethane	9.97	129	596338	57.8793 ug/L	100
69)	Tetrachloroethene	10.08	166	484365	51.9493 ug/L	99
70)	1,2-Dibromoethane	10.18	107	490337	52.8805 ug/L	100
71)	1-Chlorohexane	10.71	91	411452	48.8498 ug/L	100
72)	Chlorobenzene	10.73	112	987980	49.6275 ug/L	100
73)	1,1,1,2-Tetrachloroethane	10.77	131	452482	53.6255 ug/L	99
74)	Ethylbenzene	10.88	91	1668704	50.6763 ug/L	98
75)	m,p-Xylene	11.00	91	2490212	101.9735 ug/L	96
76)	Styrene	11.35	104	1019162	51.5164 ug/L	95
77)	o-Xylene	11.38	91	1241099	49.3746 ug/L	97
78)	Bromoform	11.45	173	429621	51.7937 ug/L	100
79)	Cyclohexanone	11.50	55	71747	128.7645 ug/L	99
80)	Isopropylbenzene	11.78	105	1398664	48.9458 ug/L	98
81)	1,2,3-Trichloropropane	11.83	110	149325	50.3634 ug/L	78
85)	1,1,2,2-Tetrachloroethane	11.71	83	459085	50.2546 ug/L	99
87)	Bromobenzene	12.04	156	482836	50.8138 ug/L	99
88)	n-Propylbenzene	12.18	91	1587450	49.4935 ug/L	98
89)	2-Chlorotoluene	12.26	91	1036314	48.8911 ug/L	99
90)	4-Chlorotoluene	12.33	91	1258764	49.6234 ug/L	98
91)	1,3,5-Trimethylbenzene	12.37	105	1189777	52.0063 ug/L	98
92)	tert-Butylbenzene	12.70	119	976116	50.2597 ug/L	98
93)	1,2,4-Trimethylbenzene	12.73	105	1179194	48.0461 ug/L	98
94)	sec-Butylbenzene	12.93	105	1214876	49.9104 ug/L	99
95)	1,3-Dichlorobenzene	13.02	146	751229	48.2506 ug/L	99
96)	1,4-Dichlorobenzene	13.11	146	764382	48.6376 ug/L	99
97)	p-Isopropyltoluene	13.07	119	989898	50.3876 ug/L	99
98)	1,2-Dichlorobenzene	13.42	146	742237	49.4806 ug/L	100
99)	n-Butylbenzene	13.47	91	935093	50.2366 ug/L	100
100)	1,2-Dibromo-3-chloropropan	14.07	157	110945	51.2224 ug/L	96
101)	1,3,5-Trichlorobenzene	14.59	180	548711	49.8022 ug/L	100

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

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202ICV1.D Vial: 13
Acq On : 2 Feb 2015 3:14 pm Operator:
Sample : SEQ-ICV1 ALSO LCS1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 8:11 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

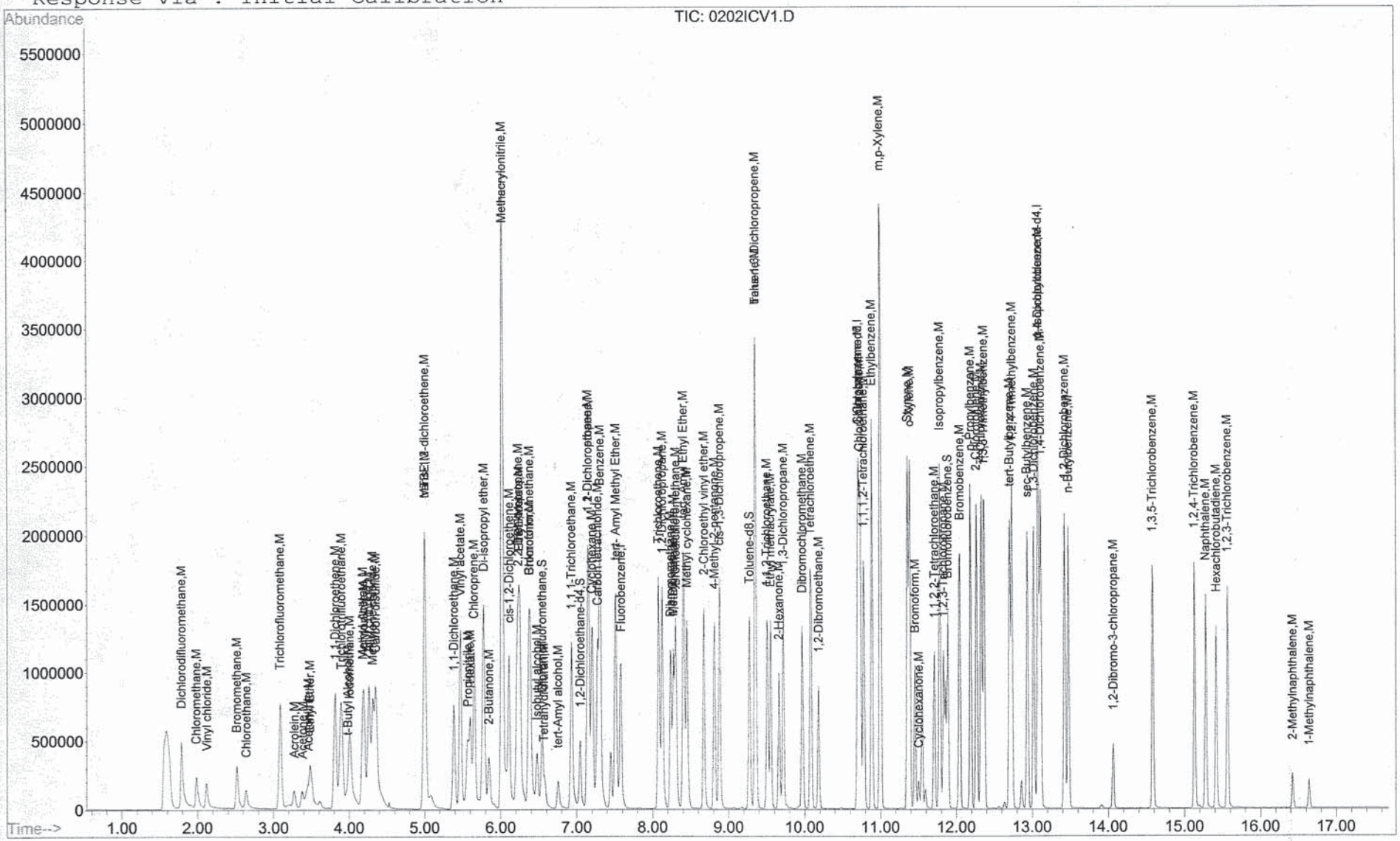
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102)	1,2,4-Trichlorobenzene	15.13	180	512055	50.0686 ug/L	99
103)	Naphthalene	15.28	128	1041040	45.2487 ug/L	100
104)	Hexachlorobutadiene	15.42	225	243780	51.1230 ug/L	100
105)	1,2,3-Trichlorobenzene	15.56	180	450514	51.4893 ug/L	100
106)	2-Methylnaphthalene	16.42	142	103437	10.9136 ug/L	100
107)	1-Methylnaphthalene	16.64	142	81815	10.7792 ug/L	98

(#) = qualifier out of range (m) = manual integration
0202ICV1.D 020215W6.M Tue Feb 03 08:11:58 2015 Page 3

Quantitation Report

Data File : D:\DATA\020215V6\0202ICV1.D Vial: 13
Acq On : 2 Feb 2015 3:14 pm Operator:
Sample : SEQ-ICV1 ALSO LCS1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 8:11 2015 Quant Results File: 020215W6.RES

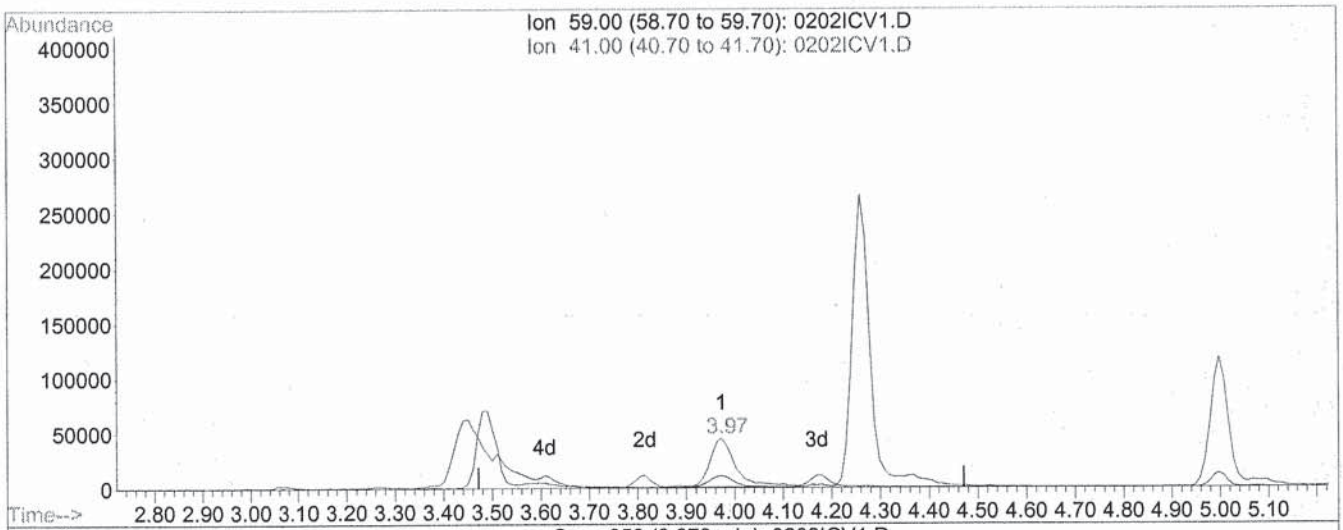
Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration

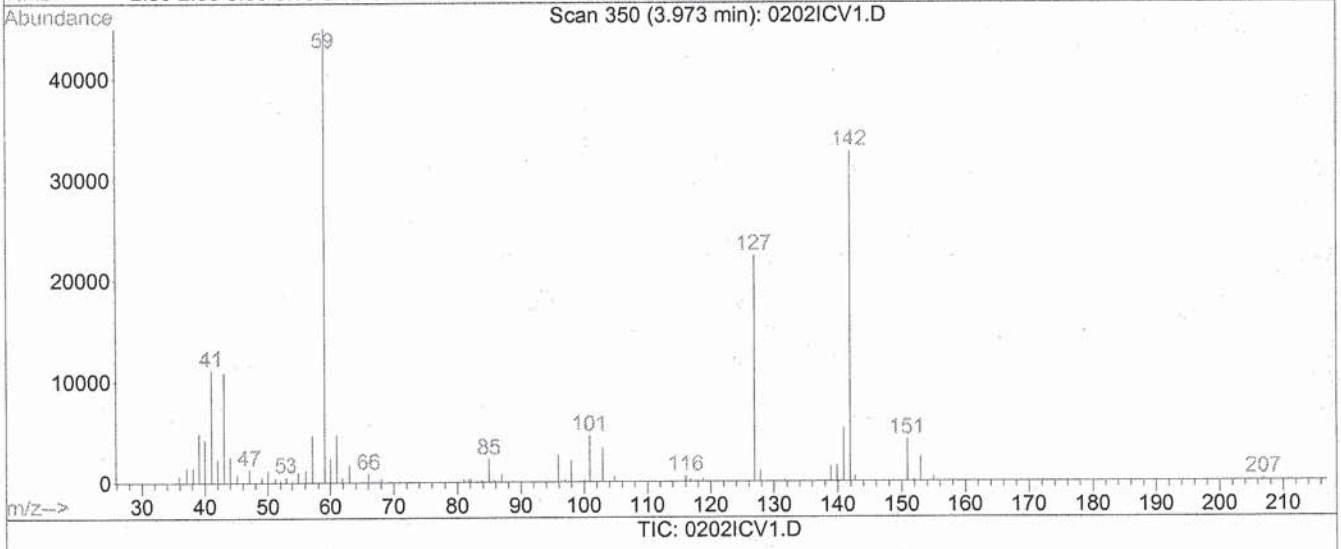


Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202ICV1.D Vial: 13
Acq On : 2 Feb 2015 3:14 pm Operator:
Sample : SEQ-ICV1 ALSO LCS1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 8:11 2015 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Multiple Level Calibration





TIC: 0202ICV1.D

(15) t-Butyl Alcohol (M)

3.97min 191.80ug/L

response 161064

Ion	Exp%	Act%
59.00	100	100
41.00	24.50	27.22
0.00	0.00	0.00
0.00	0.00	0.00

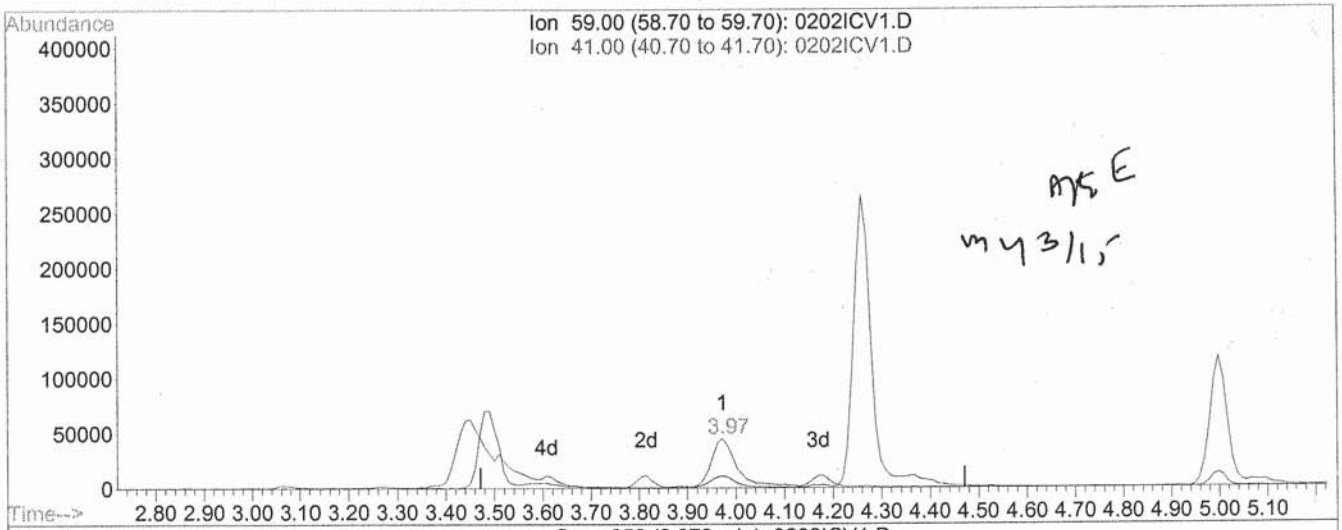
0202ICV1.D 020215W6.M Tue Feb 03 08:11:33 2015

Quantitation Report (Qedit)

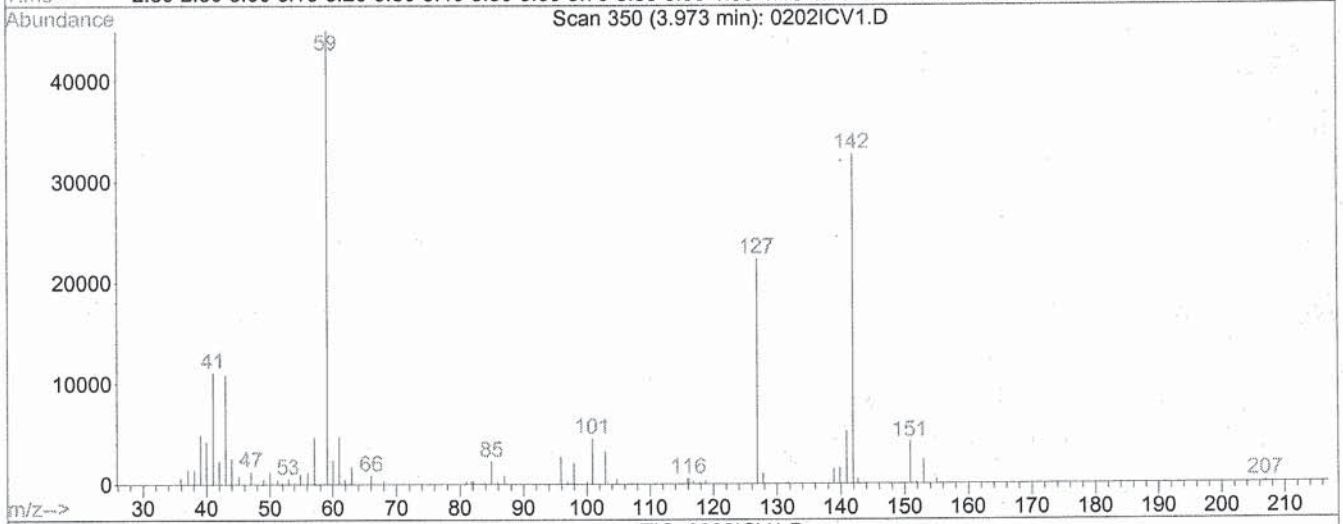
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Acq On : 2 Feb 2015 3:14 pm
Sample : SEQ-ICV1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 8:11 2015

Vial: 13
Operator:
ALSO LCS1 Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Multiple Level Calibration



AK E
m43/15



TIC: 0202ICV1.D

(15) t-Butyl Alcohol (M)

3.97min 210.23ug/L m

response 176537

Ion	Exp%	Act%
59.00	100	100
41.00	24.50	24.83
0.00	0.00	0.00
0.00	0.00	0.00

02/05/15

0202ICV1.D 020215W6.M Tue Feb 03 08:11:39 2015

Sequence Name: C:\HPCHEM\1\SEQUENCE\020315V6.S
Comment: 8260B/C/624
Operator:
Data Path: d:\DATA\020315V6\
Pre-Seq Cmd:
Post-Seq Cmd:

pg/ROC

M 2/3/15

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

and pH < 2.0

~~Hcpt # 7.0~~ H2SO4 PT sample

Line	Type	Vial	DataFile	Method	Sample Name	
1	Sample	50	PRIMER	VW6SUR	SEQ-CCV1	
2	Sample	51	0203TUN1	VW6SUR	SEQ-TUN1 9:19, 2/3	
3	Sample	1	0203CCV1	VW6SUR	SEQ-CCV1	
4	Sample	2	0203LCS1	VW6SUR	5B03424-BS1	
5	Sample	3	0203LCD1	VW6SUR	5B03424-BSD1	
6	Sample	4	BLANK	VW6SUR	BLANK	
7	Sample	5	0203RL1	VW6SUR	SEQ-LCV1	
8	Sample	6	BLANK1	VW6SUR	BLANK	
9	Sample 0203	7	~~0130~~BLK1	VW6SUR	5B03424-BLK1	
10	Sample	8	0110203A	VW6SUR	1501102-03 ✓	
11	Sample	9	0105309A	VW6SUR	1501053-09RE1 ✓	2X
12	Sample	10	BLANK2	VW6SUR	BLANK	
13	Sample	11	BLANK3	VW6SUR	BLANK	
14	Sample	12	0110201B	VW6SUR	1501102-01 ✓	
15	Sample	13	0110202B	VW6SUR	1501102-02 ✓	
16	Sample	14	0110204B	VW6SUR	1501102-04 ✓	
17	Sample	15	0110205B	VW6SUR	1501102-05 ✓	
18	Sample	16	0110206B	VW6SUR	1501102-06 ✓	2XF
19	Sample	17	0110207B	VW6SUR	1501102-07 ✓	
20	Sample	18	BLANK4	VW6SUR	BLANK	
21	Sample	19	0203MRL1	VW6SUR	5B03424-MRL1	
22	Sample	20	0203MRL2	VW6SUR	5B03424-MRL2	
23	Sample	21	0203MRL3	VW6SUR	5B03424-MRL3	
24	Sample	22	0203MRL4	VW6SUR	5B03424-MRL4	
25	Sample	23	0203HCV1	VW6SUR	SEQ-HCV1	

7:54, 2/3

Analyst chk
M 2/3

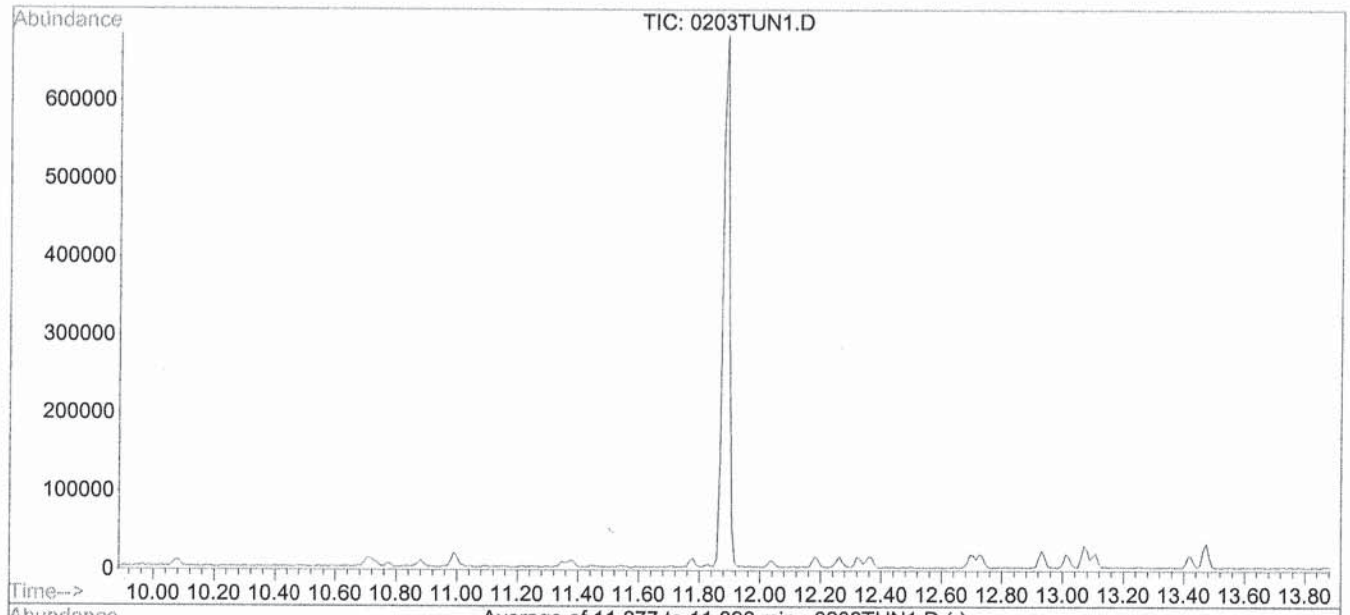
MS
2/3/15

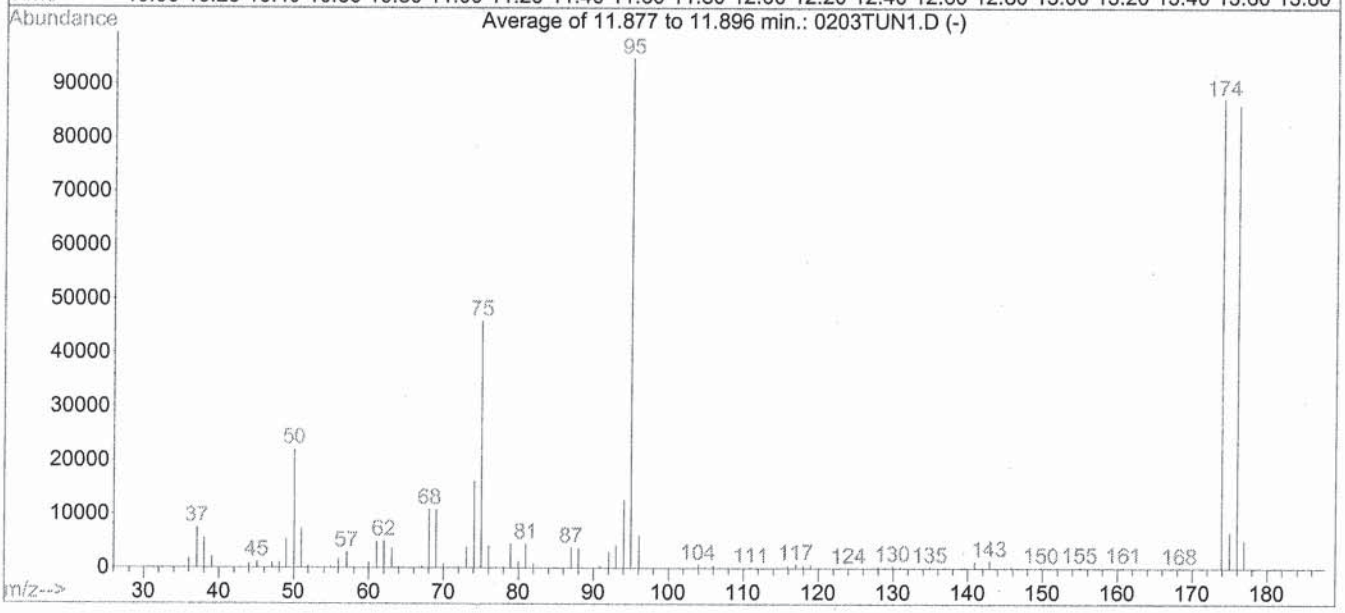
Last Modified: Tue Feb 03 11:58:39 2015

BFB

Data File : D:\DATA\020315V6\0203TUN1.D
Acq On : 3 Feb 2015 9:19 am
Sample : SEQ-TUN1
Misc : 1
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B

Vial: 51
Operator:
Inst : NSH-VOA6
Multiplr: 1.00





AutoFind: Scans 1152, 1153, 1154; Background Corrected with Scan 1147

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	23.3	22138	PASS
75	95	30	60	48.5	45959	PASS
95	95	100	100	100.0	94853	PASS
96	95	5	9	6.2	5909	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	92.0	87277	PASS
175	174	5	9	7.7	6693	PASS
176	174	95	101	98.7	86141	PASS
177	176	5	9	6.1	5235	PASS

02/16/15

02/09/15

0203TUN1.D 020215W6.M Tue Feb 03 10:10:20 2015

Average of 11.877 to 11.896 min.: 0203TUN1.D
SEQ-TUN1
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.00	1762	50.05	22138	63.05	3640	76.00	4079
37.05	7477	51.10	7209	64.00	263	77.05	235
38.00	5507	52.00	417	64.30	81	77.95	170
39.05	2055	54.90	284	67.05	327	78.95	4539
42.40	59	56.00	1688	68.05	10888	79.95	1267
44.00	860	57.05	2915	69.00	10775	80.95	4530
45.05	1207	57.90	53	70.00	723	82.00	775
45.95	70	58.10	53	71.90	366	87.00	3792
47.05	1015	60.00	1061	73.05	3788	88.00	3758
48.00	991	61.05	4860	74.05	16211	90.90	339
48.95	5313	62.00	5055	75.00	45959	92.05	3005

Average of 11.877 to 11.896 min.: 0203TUN1.D
SEQ-TUN1
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
93.00	4203	112.65	62	134.90	281	149.85	157
94.05	12710	114.90	85	136.75	83	151.05	53
95.00	94853	115.90	411	136.95	106	154.95	210
96.05	5909	117.00	748	139.55	63	156.95	104
104.00	681	117.95	543	140.90	1267	158.75	67
104.90	256	118.95	678	141.95	123	158.95	80
105.95	620	124.05	71	142.90	1407	160.80	209
106.90	165	128.00	316	144.90	200	168.30	53
110.85	90	128.90	234	145.80	233	170.15	73
111.00	142	129.90	423	146.80	71	173.90	87277
111.85	56	130.90	220	147.85	151	175.00	6693

Average of 11.877 to 11.896 min.: 0203TUN1.D
SEQ-TUN1
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
175.95	86141						
176.90	5235						
177.85	73						

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020315V6\0203CCV1.D Vial: 1
Acq On : 3 Feb 2015 9:48 am Operator:
Sample : SEQ-CCV1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:06 2015 Quant Results File: 020215W6.RES

02/09/15

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.57	96	817716	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.69	82	356399	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.07	152	292900	30.00	ug/L	-0.02
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	327331	29.70	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 99.00%			
42) 1,2-Dichloroethane-d4	7.04	102	60876	31.48	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 104.93%			
61) Toluene-d8	9.27	98	787938	29.96	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 99.87%			
82) Bromofluorobenzene	11.88	95	351257	30.79	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 102.63%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.79	85	1218131	100.5549	ug/L	99
3) Chloromethane	1.99	50	529063	112.0729	ug/L	98
4) Vinyl chloride	2.11	62	392625	117.5031	ug/L	100
5) Bromomethane	2.52	94	444011	107.3704	ug/L	98
6) Chloroethane	2.64	64	285281	113.5449	ug/L	97
7) Trichlorofluoromethane	3.09	101	1512709	114.1338	ug/L	99
8) Acrolein	3.28	56	190501	412.8007	ug/L	97
9) Acetone	3.37	43	516096	225.5940	ug/L	99
10) Acetonitrile	3.44	41	626230	1056.3190	ug/L	99
11) Ethyl Ether	3.49	59	418777	126.8739	ug/L	97
12) 1,1-Dichloroethene	3.81	96	760561	102.8511	ug/L	98
13) Trichlorotrifluoroethane	3.89	101	927070	110.2620	ug/L	99
14) Iodomethane	4.01	142	1899133	98.8307	ug/L	99
15) t-Butyl Alcohol	3.98	59	302865	388.3117	ug/L	99
16) Methyl Acetate	4.17	43	606121	93.2995	ug/L	100
17) Acrylonitrile	4.19	53	1467909	524.5738	ug/L	100
18) Allyl chloride	4.26	76	372196	105.5639	ug/L	92
19) Methylene chloride	4.31	84	896863	98.9758	ug/L	98
20) Carbon disulfide	4.35	76	2896276	105.9109	ug/L	100
21) trans-1,2-dichloroethene	5.00	96	767324	101.9141	ug/L	98
22) MTBE	5.00	73	2111785	103.4687	ug/L	98
23) 1,1-Dichloroethane	5.39	63	1604252	109.6565	ug/L	96
24) Vinyl acetate	5.47	43	4106102	204.3896	ug/L	100
25) Propionitrile	5.56	54	931385	941.4581	ug/L	93
26) Hexane	5.60	57	540676	100.4155	ug/L	98
27) Chloroprene	5.65	53	1556201	107.1950	ug/L	99
28) Di-isopropyl ether	5.77	45	3156353	102.1751	ug/L	100
29) 2-Butanone	5.85	43	993335	208.9578	ug/L	98
30) Methacrylonitrile	6.03	41	4713566	935.1032	ug/L	99
31) cis-1,2-Dichloroethene	6.11	96	851448	96.9076	ug/L	99
32) Ethyl Acetate	6.23	43	1244965	99.8561	ug/L	100
33) 2,2-Dichloropropane	6.21	77	1304452	110.3986	ug/L	100
34) ETBE	6.25	59	2604163	103.0446	ug/L	99
35) Chloroform	6.37	83	1695377	101.5834	ug/L	100
36) Bromochloromethane	6.39	128	538337	104.9390	ug/L	98
37) Isobutyl alcohol	6.48	42	263928	1669.8679	ug/L	98
39) Tetrahydrofuran	6.58	72	72400	98.4327	ug/L	99
40) tert-Amyl alcohol	6.76	59	229091	406.7195	ug/L	97
41) 1,1,1-Trichloroethane	6.93	97	1564376	109.8371	ug/L	100

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

Data File : D:\DATA\020315V6\0203CCV1.D
Acq On : 3 Feb 2015 9:48 am
Sample : SEQ-CCV1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:06 2015

Vial: 1
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43)	1,2-Dichloroethane	7.14	62	1586422	109.8331	ug/L	100
44)	1,1-Dichloropropene	7.15	75	1131846	104.1654	ug/L	99
45)	Cyclohexane	7.20	56	1043475	100.7211	ug/L	99
46)	Carbon tetrachloride	7.27	117	1485276	102.0901	ug/L	99
47)	Benzene	7.31	78	2837909	103.1895	ug/L	100
48)	tert- Amyl Methyl Ether	7.50	73	2089007	104.8824	ug/L	99
49)	Trichloroethene	8.08	95	919128	103.1011	ug/L	100
50)	1,2-Dichloropropane	8.13	63	783647	102.1945	ug/L	99
51)	Dibromomethane	8.23	93	757373	103.4652	ug/L	98
52)	Methyl methacrylate	8.26	41	818379	105.1513	ug/L	100
53)	1,4-Dioxane	8.28	88	151904	1932.8803	ug/L	97
54)	Bromodichloromethane	8.30	83	1304174	111.2083	ug/L	99
55)	tert- Amyl Ethyl Ether	8.40	59	2239158	107.2982	ug/L	100
56)	Methyl cyclohexane	8.45	83	788334	101.1067	ug/L	99
57)	2-Chloroethyl vinyl ether	8.67	63	898758	202.6783	ug/L	100
58)	4-Methyl-2-pentanone	8.81	43	1636287	203.3011	ug/L	100
59)	cis-1,3-Dichloropropene	8.87	75	1330197	107.8478	ug/L	98
62)	trans-1,3-Dichloropropene	9.36	75	1255507	106.1535	ug/L	98
63)	Toluene	9.35	92	1455416	92.3704	ug/L	99
64)	1,1,2-Trichloroethane	9.51	83	586553	98.3009	ug/L	98
65)	Ethyl methacrylate	9.55	69	832768	103.3495	ug/L	97
66)	2-Hexanone	9.66	43	1108534	200.7919	ug/L	100
67)	1,3-Dichloropropane	9.71	76	1106936	96.2858	ug/L	99
68)	Dibromochloromethane	9.97	129	1198248	119.9160	ug/L	99
69)	Tetrachloroethene	10.08	166	917523	101.4667	ug/L	100
70)	1,2-Dibromoethane	10.18	107	918825	102.1722	ug/L	100
71)	1-Chlorohexane	10.71	91	747850	91.5498	ug/L	99
72)	Chlorobenzene	10.73	112	1804047	93.4376	ug/L	100
73)	1,1,1,2-Tetrachloroethane	10.78	131	891499	108.9408	ug/L	99
74)	Ethylbenzene	10.89	91	3204030	100.3279	ug/L	100
75)	m,p-Xylene	10.99	91	4588014	193.7205	ug/L	99
76)	Styrene	11.35	104	1851156	96.4816	ug/L	100
77)	o-Xylene	11.38	91	2300395	94.3624	ug/L	100
78)	Bromoform	11.45	173	840129	95.6076	ug/L	99
79)	Cyclohexanone	11.50	55	130342	241.1995	ug/L	97
80)	Isopropylbenzene	11.77	105	2739729	98.8574	ug/L	100
81)	1,2,3-Trichloropropane	11.83	110	278484	96.8462	ug/L	98
84)	cis-1,4-Dichloro-2-butene	11.55	53	388623	90.6610	ug/L	97
85)	1,1,2,2-Tetrachloroethane	11.70	83	840793	104.1029	ug/L	99
86)	trans-1,4-Dichloro-2-buten	11.85	53	340611	88.8792	ug/L	98
87)	Bromobenzene	12.04	156	933178	111.0805	ug/L	99
88)	n-Propylbenzene	12.19	91	3074846	108.4335	ug/L	99
89)	2-Chlorotoluene	12.26	91	2006294	107.0593	ug/L	99
90)	4-Chlorotoluene	12.32	91	2449588	109.2262	ug/L	100
91)	1,3,5-Trimethylbenzene	12.36	105	2216281	109.5738	ug/L	100
92)	tert-Butylbenzene	12.70	119	1809639	105.3906	ug/L	99
93)	1,2,4-Trimethylbenzene	12.73	105	2268331	104.5373	ug/L	99
94)	sec-Butylbenzene	12.94	105	2302556	106.9943	ug/L	100
95)	1,3-Dichlorobenzene	13.01	146	1417662	102.9898	ug/L	99
96)	1,4-Dichlorobenzene	13.10	146	1424041	102.4887	ug/L	100
97)	p-Isopropyltoluene	13.07	119	1832294	105.4922	ug/L	99
98)	1,2-Dichlorobenzene	13.42	146	1413665	106.5934	ug/L	99
99)	n-Butylbenzene	13.47	91	1791843	108.8823	ug/L	99

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

Data File : D:\DATA\020315V6\0203CCV1.D
Acq On : 3 Feb 2015 9:48 am
Sample : SEQ-CCV1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:06 2015

Vial: 1
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
100)	1,2-Dibromo-3-chloropropan	14.06	157	193834	93.4906	ug/L	98
101)	1,3,5-Trichlorobenzene	14.58	180	1044202	107.1966	ug/L	99
102)	1,2,4-Trichlorobenzene	15.13	180	987849	109.2525	ug/L	100
103)	Naphthalene	15.28	128	1942182	91.0416	ug/L	100
104)	Hexachlorobutadiene	15.41	225	460080	109.1297	ug/L	98
105)	1,2,3-Trichlorobenzene	15.57	180	850802	109.9838	ug/L	100
106)	2-Methylnaphthalene	16.42	142	176274	21.0364	ug/L	96
107)	1-Methylnaphthalene	16.63	142	138389	20.6228	ug/L	98

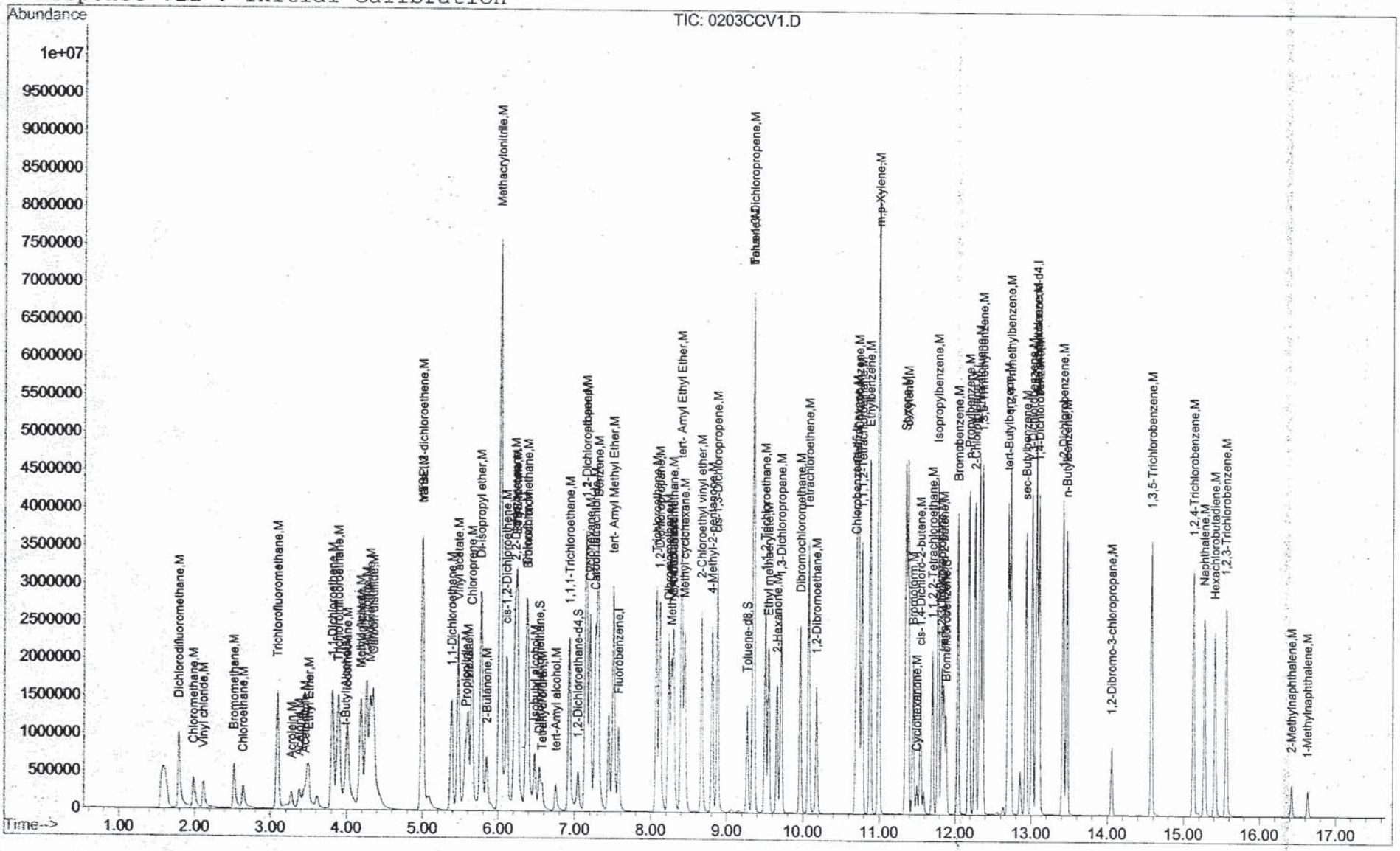
(#) = qualifier out of range (m) = manual integration

Data File : D:\DATA\020315V6\0203CCV1.D
Acq On : 3 Feb 2015 9:48 am
Sample : SEQ-CCV1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:06 2015

Vial: 1
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration



155
1501102

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020315V6\0203LCS1.D
Acq On : 3 Feb 2015 10:17 am
Sample : 5B03424-BS1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:06 2015

Vial: 2
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

02/09/15

Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.57	96	832558	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.69	82	356695	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.07	152	310565	30.00	ug/L	-0.01
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	329759	29.38	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 97.93%			
42) 1,2-Dichloroethane-d4	7.04	102	57506	29.21	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 97.37%			
61) Toluene-d8	9.27	98	782888	29.75	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 99.17%			
82) Bromofluorobenzene	11.88	95	344475	30.17	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 100.57%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.79	85	581179	49.8014	ug/L	100
3) Chloromethane	1.99	50	246622	51.3113	ug/L	95
4) Vinyl chloride	2.11	62	192006	56.4383	ug/L	98
5) Bromomethane	2.52	94	216603	56.8786	ug/L	99
6) Chloroethane	2.64	64	116610	45.5847	ug/L	96
7) Trichlorofluoromethane	3.09	101	755472	55.9842	ug/L	99
8) Acrolein	3.27	56	65694	139.8160	ug/L	97
9) Acetone	3.38	43	276002	118.4942	ug/L	98
10) Acetonitrile	3.45	41	240157	397.8730	ug/L #	74
11) Ethyl Ether	3.48	59	164792	49.0358	ug/L	98
12) 1,1-Dichloroethene	3.81	96	362999	48.2135	ug/L	98
13) Trichlorotrifluoroethane	3.89	101	449741	52.5368	ug/L	99
14) Iodomethane	4.01	142	917868	46.9143	ug/L	100
15) t-Butyl Alcohol	3.97	59	130406	164.2166	ug/L #	51
16) Methyl Acetate	4.17	43	306224	46.2964	ug/L	99
17) Acrylonitrile	4.18	53	723662	253.9986	ug/L	99
18) Allyl chloride	4.26	76	184978	51.5290	ug/L	93
19) Methylene chloride	4.31	84	456092	49.4360	ug/L	99
20) Carbon disulfide	4.35	76	1444445	51.8788	ug/L	100
21) trans-1,2-dichloroethene	4.99	96	394572	51.4719	ug/L	99
22) MTBE	4.99	73	1036816	49.8941	ug/L	97
23) 1,1-Dichloroethane	5.39	63	743305	49.9019	ug/L	97
24) Vinyl acetate	5.47	43	1939730	103.3432	ug/L	100
25) Propionitrile	5.56	54	460304	456.9877	ug/L #	94
26) Hexane	5.60	57	288238	52.5779	ug/L	97
27) Chloroprene	5.65	53	764405	51.7155	ug/L	94
28) Di-isopropyl ether	5.77	45	1470212	46.7442	ug/L	99
29) 2-Butanone	5.84	43	488282	104.4744	ug/L	99
30) Methacrylonitrile	6.02	41	2397299	467.1111	ug/L	95
31) cis-1,2-Dichloroethene	6.11	96	428025	47.8472	ug/L	98
32) Ethyl Acetate	6.23	43	587116	46.2519	ug/L	99
33) 2,2-Dichloropropane	6.21	77	672959	55.9386	ug/L	98
34) ETBE	6.24	59	1227094	47.6895	ug/L	96
35) Chloroform	6.36	83	855287	50.3334	ug/L	100
36) Bromochloromethane	6.39	128	270977	51.8804	ug/L	96
37) Isobutyl alcohol	6.47	42	117357	729.2789	ug/L	97
39) Tetrahydrofuran	6.58	72	36179	48.3109	ug/L	100
40) tert-Amyl alcohol	6.76	59	105456	183.8850	ug/L	93
41) 1,1,1-Trichloroethane	6.92	97	765371	52.7798	ug/L	98

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

Data File : D:\DATA\020315V6\0203LCS1.D
Acq On : 3 Feb 2015 10:17 am
Sample : 5B03424-BS1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:06 2015

Vial: 2
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43)	1,2-Dichloroethane	7.13	62	754948	51.3357	ug/L	98
44)	1,1-Dichloropropene	7.15	75	581992	52.6067	ug/L	99
45)	Cyclohexane	7.20	56	534638	50.6858	ug/L	99
46)	Carbon tetrachloride	7.27	117	719370	52.5651	ug/L	99
47)	Benzene	7.30	78	1435739	51.2744	ug/L	99
48)	tert- Amyl Methyl Ether	7.51	73	1055059	52.0269	ug/L	99
49)	Trichloroethene	8.07	95	475386	52.3747	ug/L	100
50)	1,2-Dichloropropane	8.12	63	391927	50.1996	ug/L	98
51)	Dibromomethane	8.23	93	364682	48.9313	ug/L	99
52)	Methyl methacrylate	8.26	41	390530	49.2836	ug/L	100
53)	1,4-Dioxane	8.28	88	75683	945.8496	ug/L	99
54)	Bromodichloromethane	8.29	83	659898	55.2671	ug/L	100
55)	tert- Amyl Ethyl Ether	8.40	59	989957	46.5921	ug/L	99
56)	Methyl cyclohexane	8.44	83	410771	51.7437	ug/L	98
57)	2-Chloroethyl vinyl ether	8.67	63	448167	99.2641	ug/L	99
58)	4-Methyl-2-pentanone	8.81	43	773338	94.3708	ug/L	98
59)	cis-1,3-Dichloropropene	8.88	75	679543	54.1129	ug/L	99
62)	trans-1,3-Dichloropropene	9.35	75	590410	49.8779	ug/L	99
63)	Toluene	9.35	92	795593	50.4517	ug/L	99
64)	1,1,2-Trichloroethane	9.51	83	292931	49.0518	ug/L	100
65)	Ethyl methacrylate	9.55	69	424008	52.5772	ug/L	100
66)	2-Hexanone	9.65	43	555452	100.5271	ug/L	98
67)	1,3-Dichloropropane	9.71	76	570083	49.5470	ug/L	99
68)	Dibromochloromethane	9.96	129	563745	56.3706	ug/L	98
69)	Tetrachloroethene	10.08	166	469842	51.9156	ug/L	99
70)	1,2-Dibromoethane	10.18	107	456912	50.7659	ug/L	100
71)	1-Chlorohexane	10.71	91	393331	48.1106	ug/L	99
72)	Chlorobenzene	10.73	112	945009	48.9045	ug/L	99
73)	1,1,1,2-Tetrachloroethane	10.78	131	445265	54.3660	ug/L	100
74)	Ethylbenzene	10.88	91	1605319	50.2257	ug/L	98
75)	m,p-Xylene	10.99	91	2343717	98.8770	ug/L	96
76)	Styrene	11.35	104	951954	49.5744	ug/L	97
77)	o-Xylene	11.38	91	1161027	47.5859	ug/L	97
78)	Bromoform	11.45	173	405665	50.5209	ug/L	99
79)	Cyclohexanone	11.50	55	60848	112.5066	ug/L	100
80)	Isopropylbenzene	11.77	105	1325847	47.8007	ug/L	98
81)	1,2,3-Trichloropropane	11.82	110	135177	46.9704	ug/L	75
84)	cis-1,4-Dichloro-2-butene	11.54	53	179338	39.4576	ug/L	96
85)	1,1,2,2-Tetrachloroethane	11.70	83	407612	47.5979	ug/L	99
86)	trans-1,4-Dichloro-2-buten	11.85	53	159118	39.1586	ug/L	76
87)	Bromobenzene	12.04	156	467814	52.5186	ug/L	99
88)	n-Propylbenzene	12.18	91	1500941	49.9195	ug/L	98
89)	2-Chlorotoluene	12.26	91	1014577	51.0601	ug/L	99
90)	4-Chlorotoluene	12.33	91	1207960	50.7988	ug/L	98
91)	1,3,5-Trimethylbenzene	12.36	105	1126130	52.5094	ug/L	97
92)	tert-Butylbenzene	12.70	119	928585	51.0033	ug/L	99
93)	1,2,4-Trimethylbenzene	12.73	105	1149904	49.9796	ug/L	97
94)	sec-Butylbenzene	12.93	105	1159344	50.8077	ug/L	98
95)	1,3-Dichlorobenzene	13.02	146	722135	49.4774	ug/L	99
96)	1,4-Dichlorobenzene	13.10	146	727223	49.3614	ug/L	98
97)	p-Isopropyltoluene	13.07	119	950627	51.6181	ug/L	100
98)	1,2-Dichlorobenzene	13.42	146	700895	49.8429	ug/L	99
99)	n-Butylbenzene	13.47	91	904233	51.8208	ug/L	99

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

Data File : D:\DATA\020315V6\0203LCS1.D Vial: 2
Acq On : 3 Feb 2015 10:17 am Operator:
Sample : 5B03424-BS1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:06 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
100)	1,2-Dibromo-3-chloropropan	14.06	157	95395	47.3533	ug/L	99
101)	1,3,5-Trichlorobenzene	14.58	180	540509	52.3319	ug/L	99
102)	1,2,4-Trichlorobenzene	15.13	180	495399	51.6729	ug/L	98
103)	Naphthalene	15.27	128	961015	44.5936	ug/L	100
104)	Hexachlorobutadiene	15.41	225	254982	57.0408	ug/L	99
105)	1,2,3-Trichlorobenzene	15.56	180	432282	52.7029	ug/L	100
106)	2-Methylnaphthalene	16.42	142	116086	13.0656	ug/L	97
107)	1-Methylnaphthalene	16.63	142	99268	13.9515	ug/L	99

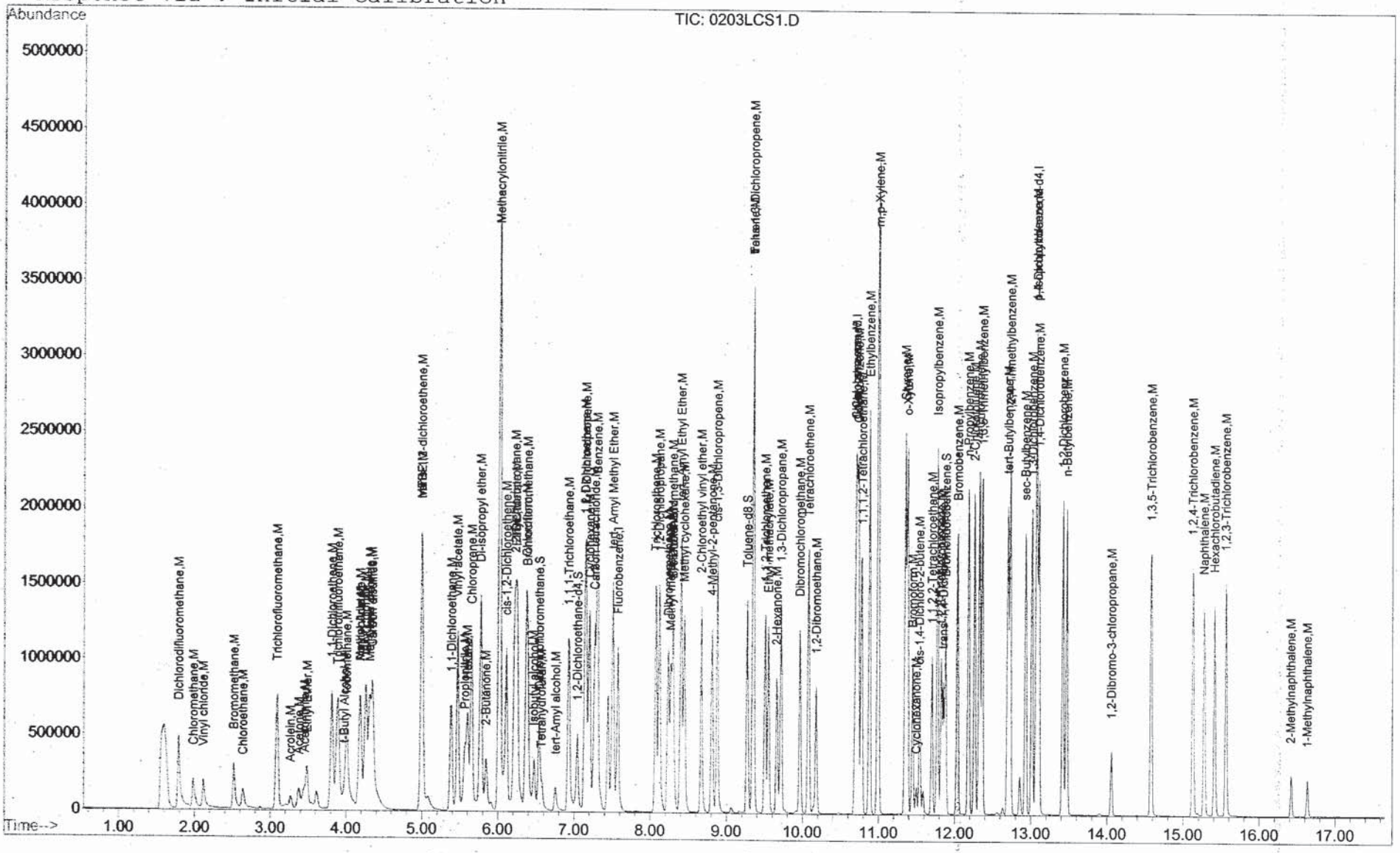
(#) = qualifier out of range (m) = manual integration

Data File : D:\DATA\020315V6\0203LCS1.D
Acq On : 3 Feb 2015 10:17 am
Sample : 5B03424-BS1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:06 2015

Vial: 2
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration



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1501102

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020315V6\0203LCD1.D
Acq On : 3 Feb 2015 10:44 am
Sample : 5B03424-BSD1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:07 2015

Vial: 3
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

02/09/15

Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

(02/16

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.57	96	814956	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.70	82	349137	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.07	152	309772	30.00	ug/L	-0.02
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	329394	29.99	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 99.97%			
42) 1,2-Dichloroethane-d4	7.04	102	57048	29.60	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 98.67%			
61) Toluene-d8	9.27	98	772737	30.00	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 100.00%			
82) Bromofluorobenzene	11.88	95	334994	29.98	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 99.93%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.79	85	552602	48.4549	ug/L	100
3) Chloromethane	1.98	50	240101	51.0335	ug/L	100
4) Vinyl chloride	2.11	62	172464	51.7891	ug/L	94
5) Bromomethane	2.52	94	210345	56.4765	ug/L	99
6) Chloroethane	2.63	64	112958	45.1108	ug/L	97
7) Trichlorofluoromethane	3.09	101	714979	54.1278	ug/L	99
8) Acrolein	3.27	56	70962	154.2898	ug/L	95
9) Acetone	3.37	43	274477	120.3847	ug/L	100
10) Acetonitrile	3.44	41	243620m	412.3277	ug/L	
11) Ethyl Ether	3.48	59	163878	49.8171	ug/L	99
12) 1,1-Dichloroethene	3.81	96	347822	47.1955	ug/L	99
13) Trichlorotrifluoroethane	3.89	101	429623	51.2707	ug/L	99
14) Iodomethane	4.00	142	882281	46.0693	ug/L	100
15) t-Butyl Alcohol	3.97	59	136648	175.7936	ug/L	100
16) Methyl Acetate	4.17	43	304630	47.0501	ug/L	98
17) Acrylonitrile	4.19	53	735927	263.8825	ug/L	99
18) Allyl chloride	4.26	76	182815	52.0264	ug/L	96
19) Methylene chloride	4.31	84	443809	49.1436	ug/L	98
20) Carbon disulfide	4.35	76	1360649	49.9247	ug/L	100
21) trans-1,2-dichloroethene	5.00	96	376449	50.1684	ug/L	99
22) MTBE	5.00	73	1046545	51.4500	ug/L	98
23) 1,1-Dichloroethane	5.38	63	718838	49.3016	ug/L	98
24) Vinyl acetate	5.46	43	1931793	104.9902	ug/L	99
25) Propionitrile	5.56	54	470835	477.5390	ug/L	94
26) Hexane	5.60	57	252033	46.9666	ug/L	96
27) Chloroprene	5.65	53	740871	51.2059	ug/L	98
28) Di-isopropyl ether	5.77	45	1430948	46.4785	ug/L	100
29) 2-Butanone	5.85	43	508014	110.7950	ug/L	99
30) Methacrylonitrile	6.01	41	2441914	486.0810	ug/L	96
31) cis-1,2-Dichloroethene	6.10	96	414136	47.2946	ug/L	99
32) Ethyl Acetate	6.23	43	609890	49.0837	ug/L	99
33) 2,2-Dichloropropane	6.21	77	648011	55.0283	ug/L	99
34) ETBE	6.24	59	1229588	48.8186	ug/L	97
35) Chloroform	6.37	83	819165	49.2489	ug/L	99
36) Bromochloromethane	6.39	128	273040	53.4044	ug/L	98
37) Isobutyl alcohol	6.47	42	126337	802.0391	ug/L	96
39) Tetrahydrofuran	6.58	72	35778	48.8073	ug/L	96
40) tert-Amyl alcohol	6.75	59	111788	199.1363	ug/L	98
41) 1,1,1-Trichloroethane	6.93	97	742261	52.2917	ug/L	99

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

Data File : D:\DATA\020315V6\0203LCD1.D
Acq On : 3 Feb 2015 10:44 am
Sample : 5B03424-BSD1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:07 2015

Vial: 3
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
43)	1,2-Dichloroethane	7.14	62	755406	52.4763 ug/L	100
44)	1,1-Dichloropropene	7.15	75	550647	50.8485 ug/L	99
45)	Cyclohexane	7.20	56	515402	49.9175 ug/L	98
46)	Carbon tetrachloride	7.27	117	686758	51.3698 ug/L	100
47)	Benzene	7.31	78	1354341	49.4121 ug/L	98
48)	tert- Amyl Methyl Ether	7.50	73	1052761	53.0348 ug/L	100
49)	Trichloroethene	8.07	95	456779	51.4117 ug/L	99
50)	1,2-Dichloropropane	8.12	63	390217	51.0601 ug/L	99
51)	Dibromomethane	8.23	93	364328	49.9396 ug/L	99
52)	Methyl methacrylate	8.26	41	394509	50.8610 ug/L	99
53)	1,4-Dioxane	8.28	88	72071	920.1627 ug/L	93
54)	Bromodichloromethane	8.30	83	641875	54.9187 ug/L	100
55)	tert- Amyl Ethyl Ether	8.40	59	980249	47.1316 ug/L	99
56)	Methyl cyclohexane	8.45	83	395299	50.8702 ug/L	99
57)	2-Chloroethyl vinyl ether	8.67	63	451572	102.1786 ug/L	100
58)	4-Methyl-2-pentanone	8.80	43	799421	99.6608 ug/L	99
59)	cis-1,3-Dichloropropene	8.87	75	661646	53.8257 ug/L	99
62)	trans-1,3-Dichloropropene	9.36	75	580161	50.0731 ug/L	98
63)	Toluene	9.35	92	764731	49.5444 ug/L	100
64)	1,1,2-Trichloroethane	9.50	83	291250	49.8261 ug/L	99
65)	Ethyl methacrylate	9.54	69	427270	54.1286 ug/L	97
66)	2-Hexanone	9.66	43	578258	106.9201 ug/L	99
67)	1,3-Dichloropropane	9.71	76	562734	49.9670 ug/L	100
68)	Dibromochloromethane	9.97	129	560247	57.2336 ug/L	98
69)	Tetrachloroethene	10.08	166	455082	51.3732 ug/L	99
70)	1,2-Dibromoethane	10.17	107	453898	51.5227 ug/L	99
71)	1-Chlorohexane	10.71	91	383665	47.9442 ug/L	99
72)	Chlorobenzene	10.73	112	911390	48.1857 ug/L	100
73)	1,1,1,2-Tetrachloroethane	10.77	131	424338	52.9325 ug/L	98
74)	Ethylbenzene	10.88	91	1566814	50.0822 ug/L	99
75)	m,p-Xylene	10.99	91	2289465	98.6791 ug/L	96
76)	Styrene	11.35	104	936865	49.8447 ug/L	97
77)	o-Xylene	11.38	91	1146978	48.0277 ug/L	97
78)	Bromoform	11.45	173	402165	51.1058 ug/L	100
79)	Cyclohexanone	11.49	55	65323	123.3953 ug/L	97
80)	Isopropylbenzene	11.77	105	1314964	48.4346 ug/L	98
81)	1,2,3-Trichloropropane	11.83	110	138766	49.2613 ug/L	82
84)	cis-1,4-Dichloro-2-butene	11.54	53	185425	40.9013 ug/L	95
85)	1,1,2,2-Tetrachloroethane	11.70	83	408702	47.8474 ug/L	99
86)	trans-1,4-Dichloro-2-buten	11.85	53	160391	39.5730 ug/L	85
87)	Bromobenzene	12.04	156	453927	51.0901 ug/L	99
88)	n-Propylbenzene	12.18	91	1486899	49.5791 ug/L	98
89)	2-Chlorotoluene	12.26	91	970367	48.9602 ug/L	98
90)	4-Chlorotoluene	12.32	91	1199330	50.5650 ug/L	99
91)	1,3,5-Trimethylbenzene	12.36	105	1115814	52.1616 ug/L	98
92)	tert-Butylbenzene	12.70	119	896786	49.3828 ug/L	99
93)	1,2,4-Trimethylbenzene	12.73	105	1130220	49.2498 ug/L	98
94)	sec-Butylbenzene	12.93	105	1124893	49.4241 ug/L	99
95)	1,3-Dichlorobenzene	13.01	146	700944	48.1484 ug/L	98
96)	1,4-Dichlorobenzene	13.10	146	719986	48.9953 ug/L	100
97)	p-Isopropyltoluene	13.07	119	909344	49.5029 ug/L	99
98)	1,2-Dichlorobenzene	13.42	146	697657	49.7397 ug/L	99
99)	n-Butylbenzene	13.47	91	868658	49.9095 ug/L	100

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

Data File : D:\DATA\020315V6\0203LCD1.D Vial: 3
Acq On : 3 Feb 2015 10:44 am Operator:
Sample : 5B03424-BSD1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:07 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
100)	1,2-Dibromo-3-chloropropan	14.06	157	95694	47.5993 ug/L	100
101)	1,3,5-Trichlorobenzene	14.58	180	531182	51.5605 ug/L	99
102)	1,2,4-Trichlorobenzene	15.13	180	481422	50.3436 ug/L	99
103)	Naphthalene	15.28	128	942920	43.9030 ug/L	100
104)	Hexachlorobutadiene	15.42	225	228401	51.2253 ug/L	99
105)	1,2,3-Trichlorobenzene	15.56	180	422639	51.6591 ug/L	99
106)	2-Methylnaphthalene	16.42	142	100896	11.3850 ug/L	96
107)	1-Methylnaphthalene	16.64	142	85657	12.0694 ug/L	100

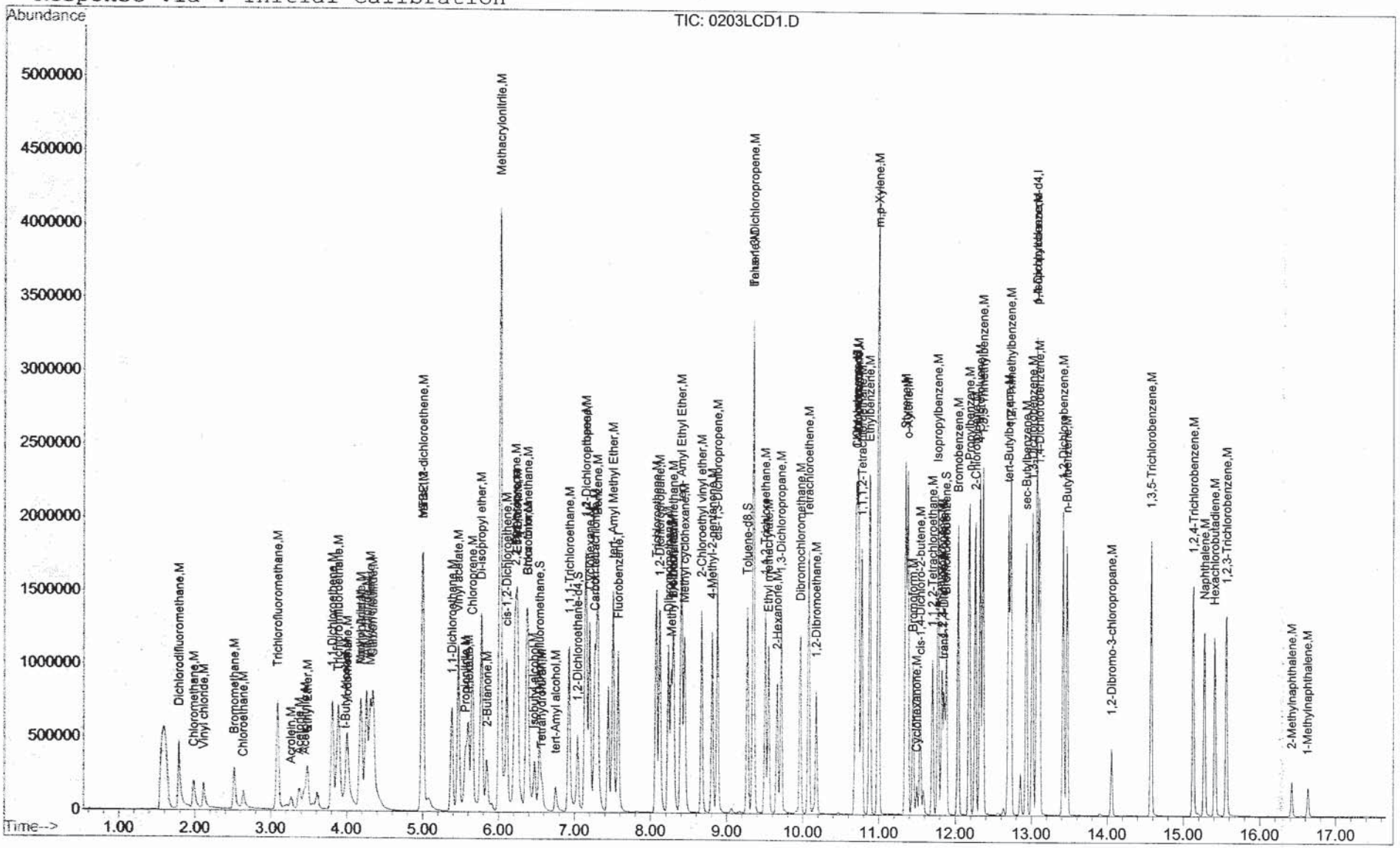
(#) = qualifier out of range (m) = manual integration

Data File : D:\DATA\020315V6\0203LCD1.D
Acq On : 3 Feb 2015 10:44 am
Sample : 5B03424-BSD1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:07 2015

Vial: 3
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration

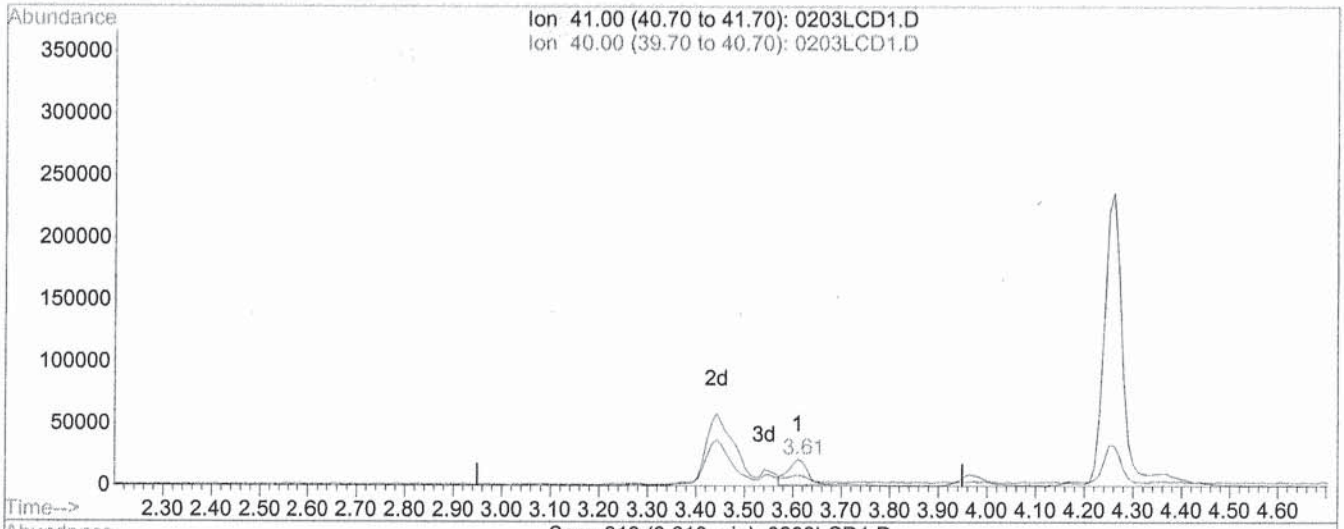


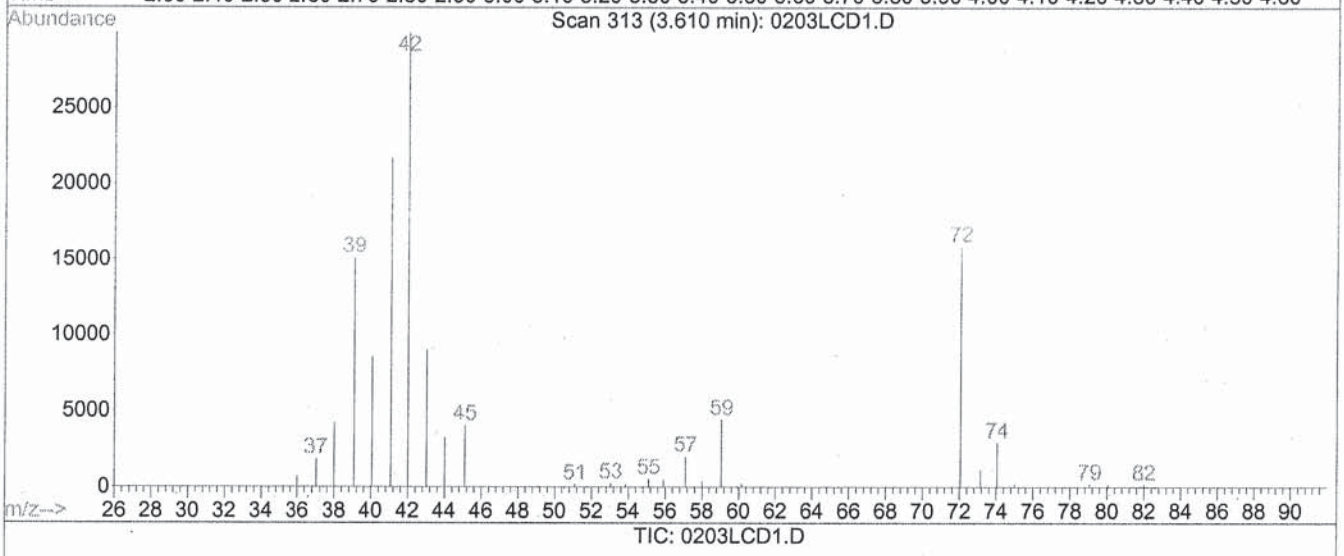
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1501102

Quantitation Report (Qedit)

Data File : D:\DATA\020315V6\0203LCD1.D Vial: 3
Acq On : 3 Feb 2015 10:44 am Operator:
Sample : 5B03424-BSD1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:07 2015 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Multiple Level Calibration





TIC: 0203LCD1.D

(10) Acetonitrile (M)

3.61min 94.26ug/L

response 55691

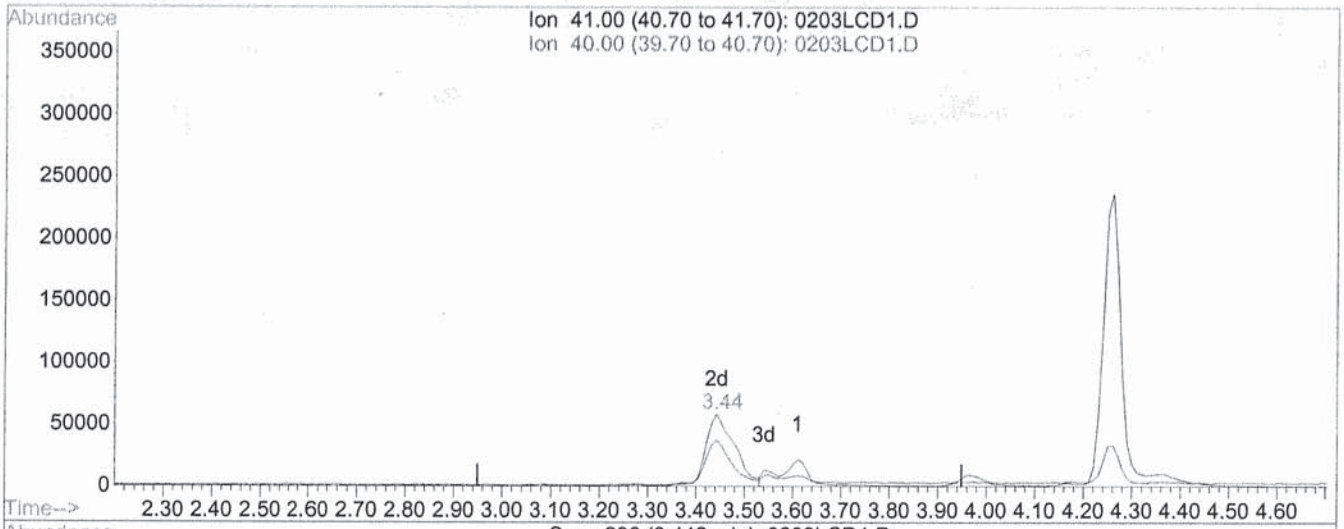
Ion	Exp%	Act%
41.00	100	100
40.00	39.40	36.67
0.00	0.00	0.00
0.00	0.00	0.00

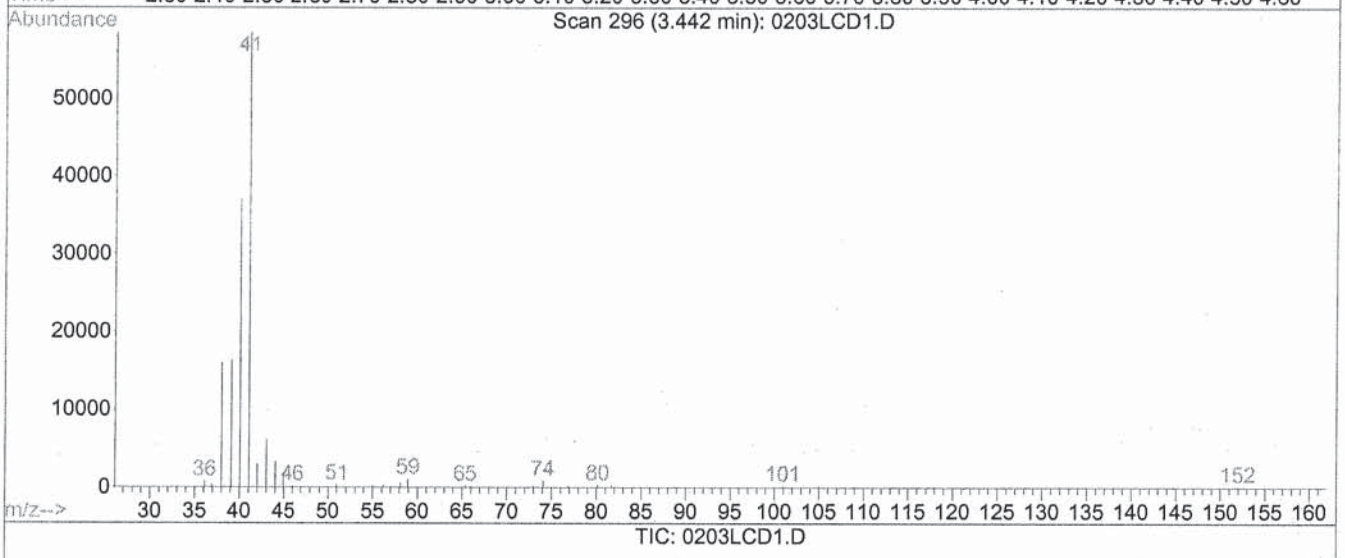
0203LCD1.D 020215W6.M Fri Feb 06 10:07:51 2015

Quantitation Report (Qedit)

Data File : D:\DATA\020315V6\0203LCD1.D Vial: 3
Acq On : 3 Feb 2015 10:44 am Operator:
Sample : 5B03424-BSD1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:07 2015 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Multiple Level Calibration





TIC: 0203LCD1.D

(10) Acetonitrile (M)

3.44min 412.33ug/L m

response 243620

Ion	Exp%	Act%
41.00	100	100
40.00	39.40	8.38#
0.00	0.00	0.00
0.00	0.00	0.00

02/09/15

0203LCD1.D 020215W6.M Fri Feb 06 10:07:56 2015

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020315V6\0203BLK1.D
Acq On : 3 Feb 2015 12:34 pm
Sample : 5B03424-BLK1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 11:28 2015

Vial: 7
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.58	96	879806	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.69	82	380281	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.08	152	362521	30.00	ug/L	-0.01
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	346339	29.20	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 97.33%			
42) 1,2-Dichloroethane-d4	7.04	102	61070	29.35	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 97.83%			
61) Toluene-d8	9.27	98	830530	29.60	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 98.67%			
82) Bromofluorobenzene	11.88	95	361066	29.66	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 98.87%			
Target Compounds						Qvalue
35) Chloroform	6.37	83	1394	0.0776	ug/L	93
75) m,p-Xylene	11.00	91	1868	0.0739	ug/L	92
88) n-Propylbenzene	12.19	91	1780	0.0507	ug/L #	88
92) tert-Butylbenzene	12.70	119	1134	0.0534	ug/L #	86
94) sec-Butylbenzene	12.93	105	1602	0.0601	ug/L	92
97) p-Isopropyltoluene	13.08	119	1610	0.0749	ug/L #	18
99) n-Butylbenzene	13.47	91	1462	0.0718	ug/L #	82
101) 1,3,5-Trichlorobenzene	14.58	180	1449	0.1202	ug/L #	91
102) 1,2,4-Trichlorobenzene	15.14	180	1641	0.1466	ug/L	98
103) Naphthalene	15.27	128	1386	0.6529	ug/L	100
104) Hexachlorobutadiene	15.41	225	2132	0.4086	ug/L	90

02/09/15

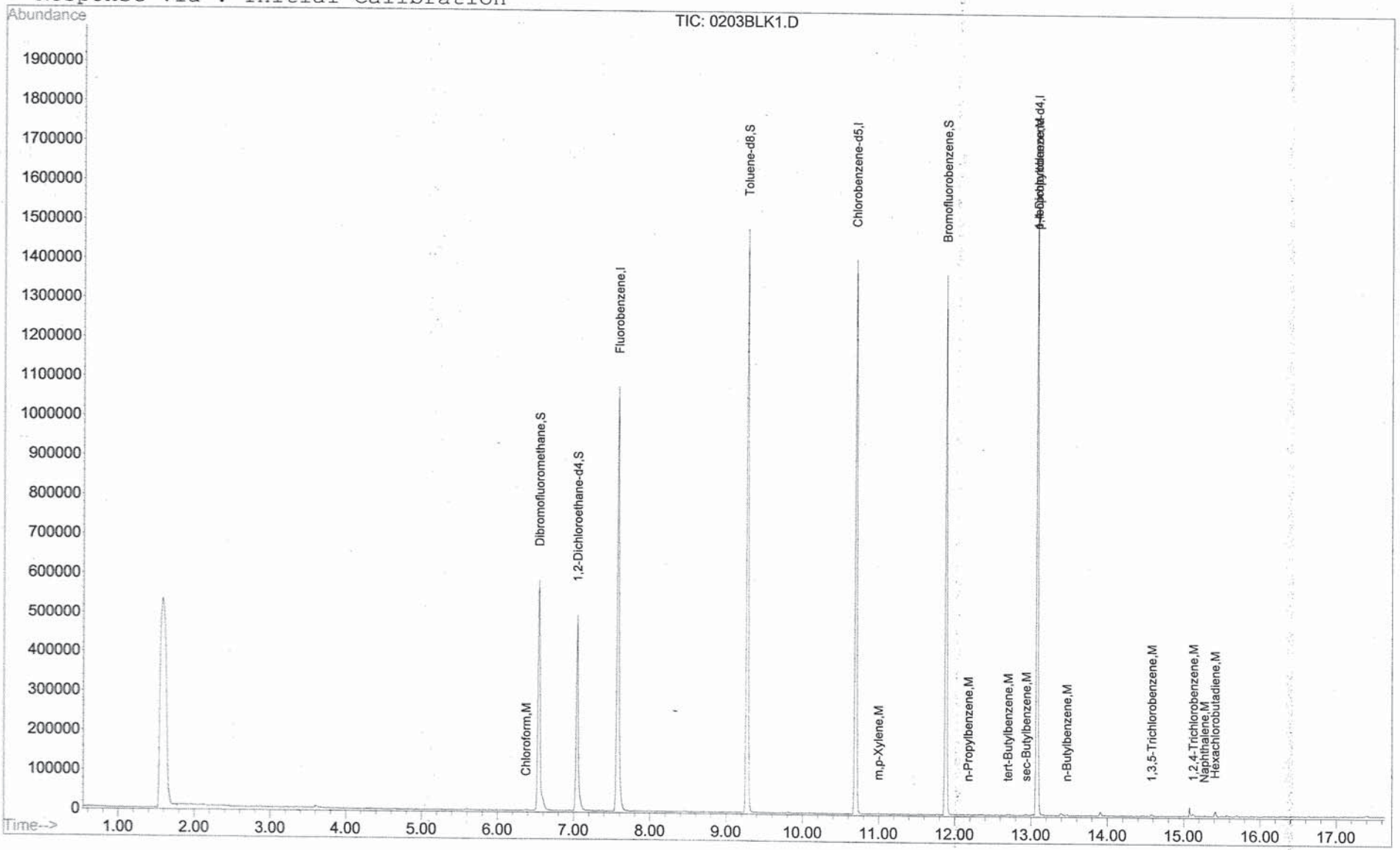
(#) = qualifier out of range (m) = manual integration

Data File : D:\DATA\020315V6\0203BLK1.D
Acq On : 3 Feb 2015 12:34 pm
Sample : 5B03424-BLK1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 11:28 2015

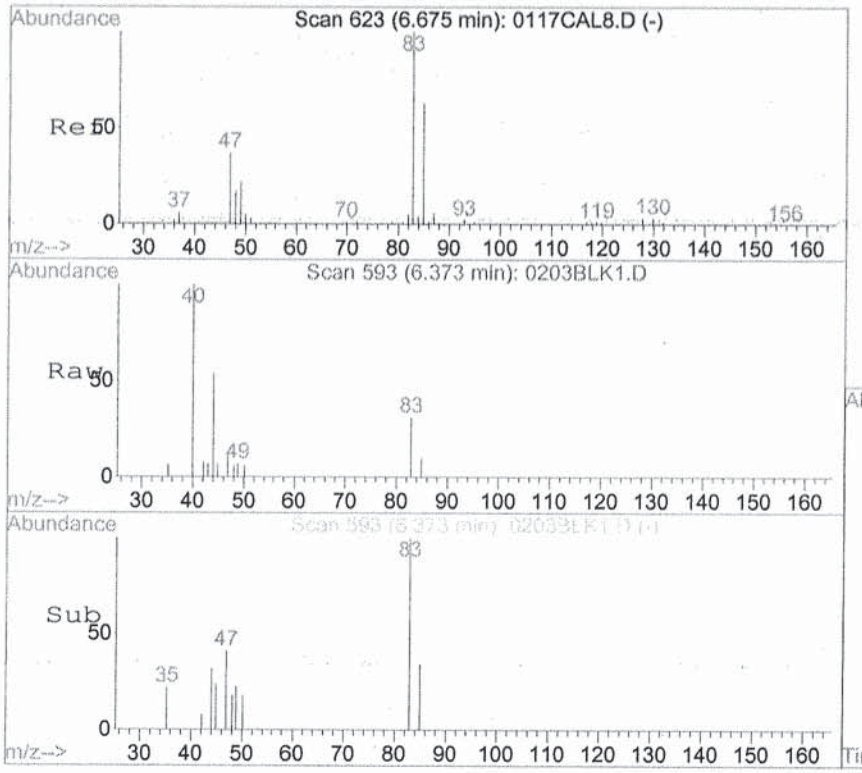
Vial: 7
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration

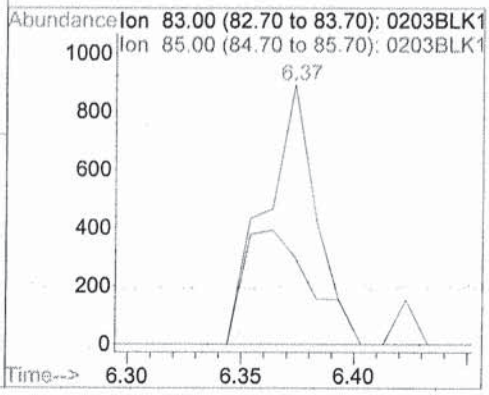


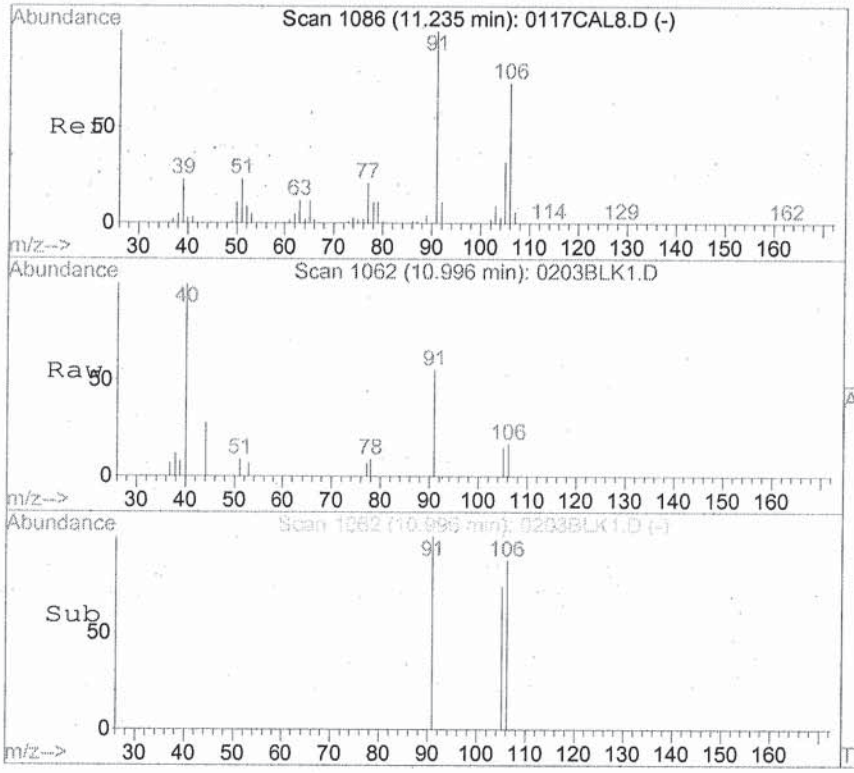
167
1501102



#35
Chloroform
Concen: 0.08 ug/L
RT: 6.37 min Scan# 593
Delta R.T. 0.01 min
Lab File: 0203BLK1.D
Acq: 3 Feb 2015 12:34 pm

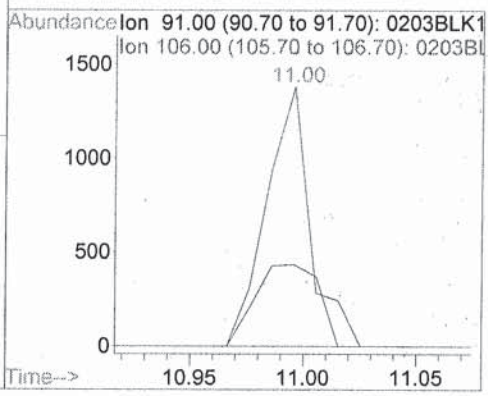
Tgt Ion: 83	Resp:	1394
Ion	Ratio	Lower	Upper
83	100		
85	58.5	51.3	76.9

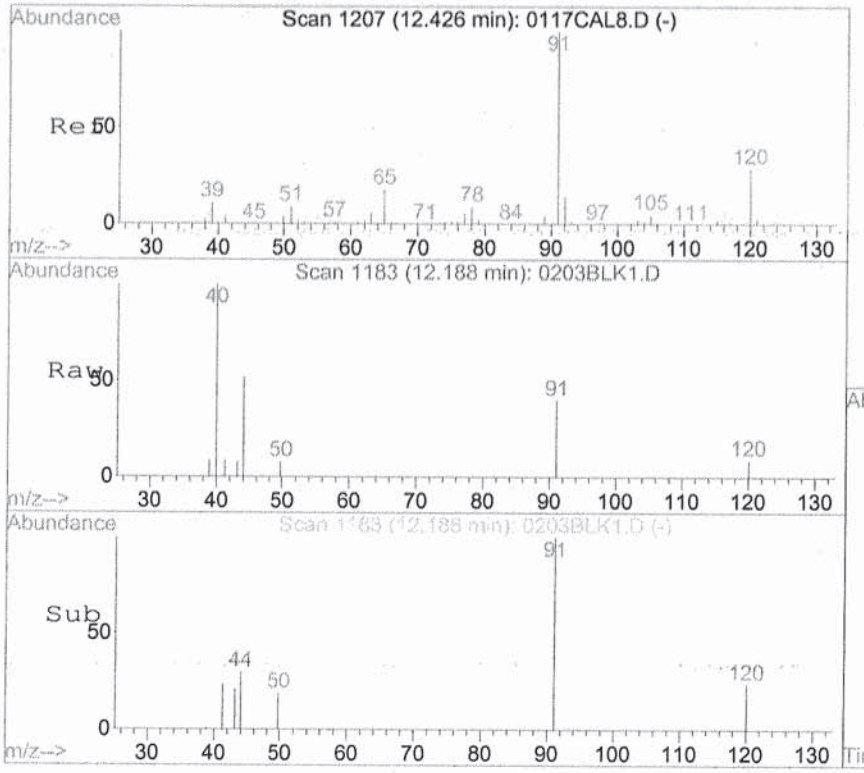




#75
m,p-Xylene
Concen: 0.07 ug/L
RT: 11.00 min Scan# 1062
Delta R.T. -0.00 min
Lab File: 0203BLK1.D
Acq: 3 Feb 2015 12:34 pm

Tgt Ion: 91	Resp:	1868
Ion	Ratio	Lower	Upper
91	100		
106	45.4	32.2	48.2

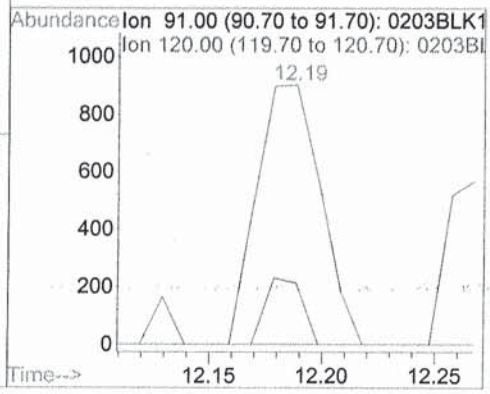


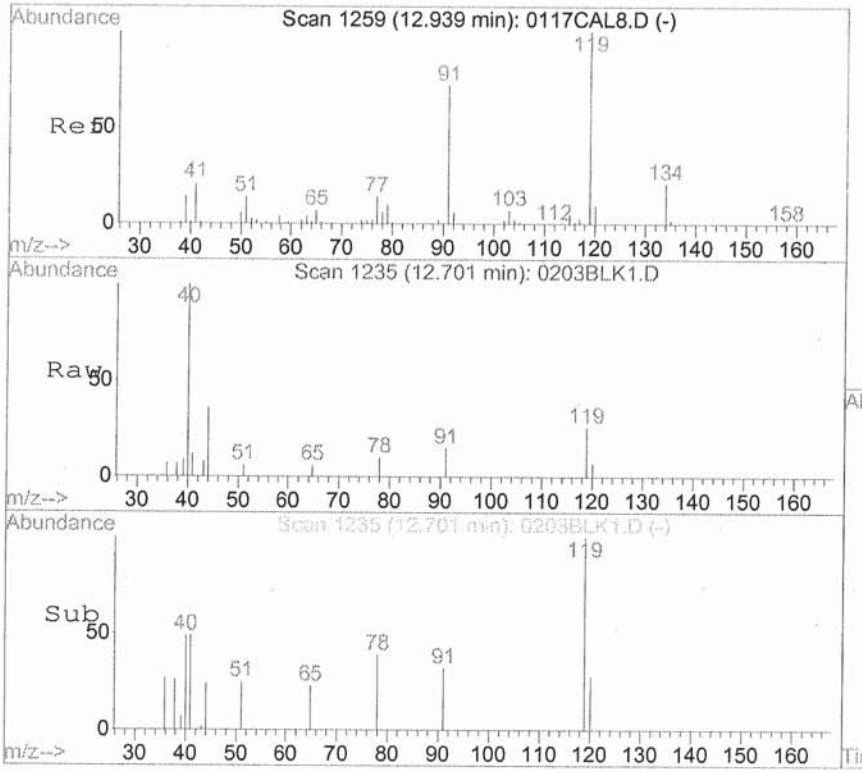


#88
n-Propylbenzene
Concen: 0.05 ug/L
RT: 12.19 min Scan# 1183
Delta R.T. -0.00 min
Lab File: 0203BLK1.D
Acq: 3 Feb 2015 12:34 pm

Tgt Ion: 91 Resp: 1780

Ion	Ratio	Lower	Upper
91	100		
120	14.7	16.0	24.0#

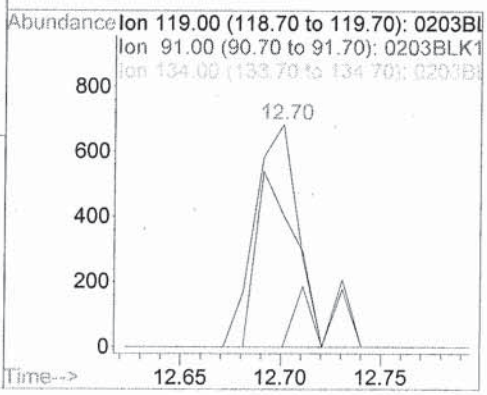


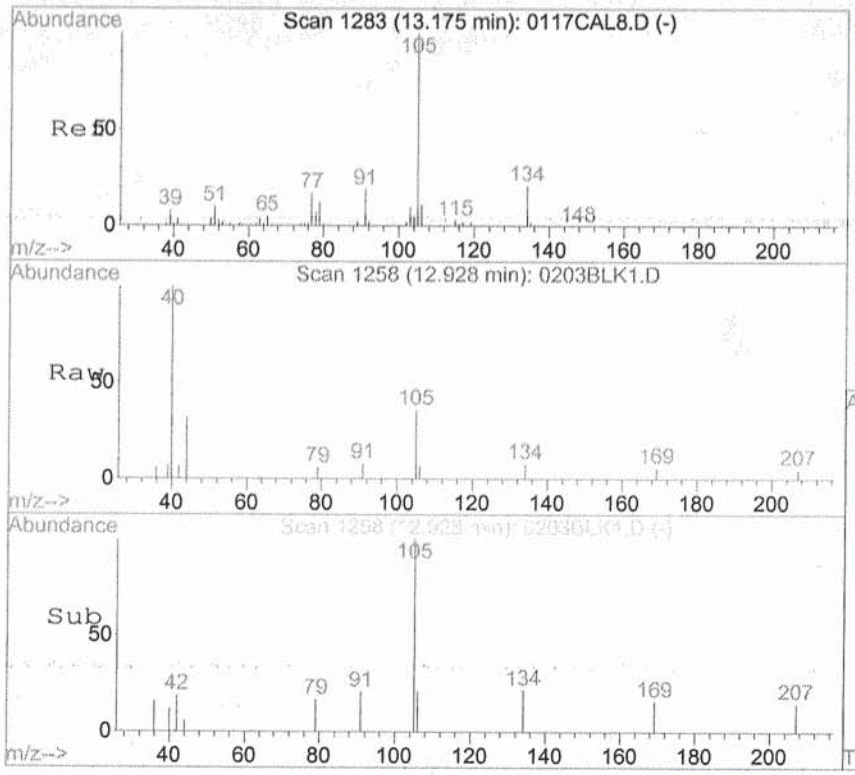


#92
tert-Butylbenzene
Concen: 0.05 ug/L
RT: 12.70 min Scan# 1235
Delta R.T. -0.00 min
Lab File: 0203BLK1.D
Acq: 3 Feb 2015 12:34 pm

Tgt Ion:119 Resp: 1134

Ion	Ratio	Lower	Upper
119	100		
91	73.9	67.4	101.2
134	9.7	16.3	24.5#

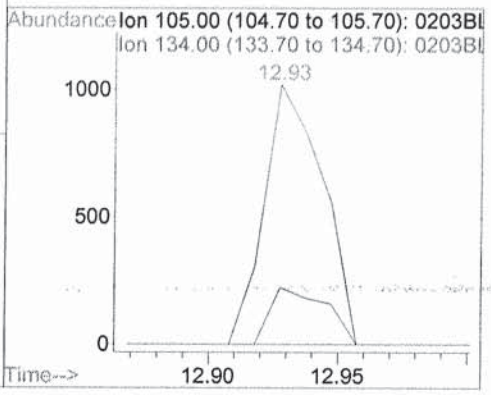


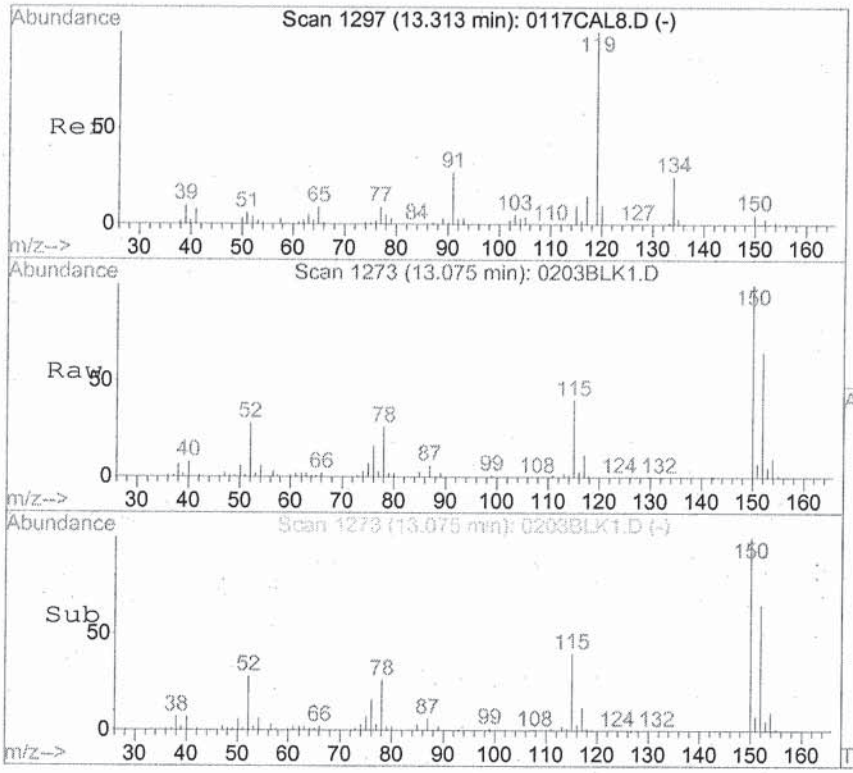


#94
sec-Butylbenzene
Concen: 0.06 ug/L
RT: 12.93 min Scan# 1258
Delta R.T. -0.01 min
Lab File: 0203BLK1.D
Acq: 3 Feb 2015 12:34 pm

Tgt Ion:105 Resp: 1602

Ion	Ratio	Lower	Upper
105	100		
134	20.8	14.0	21.0

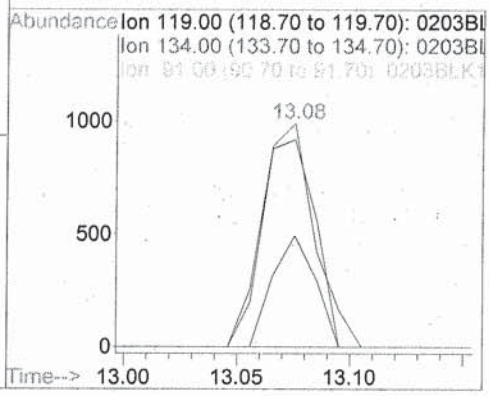


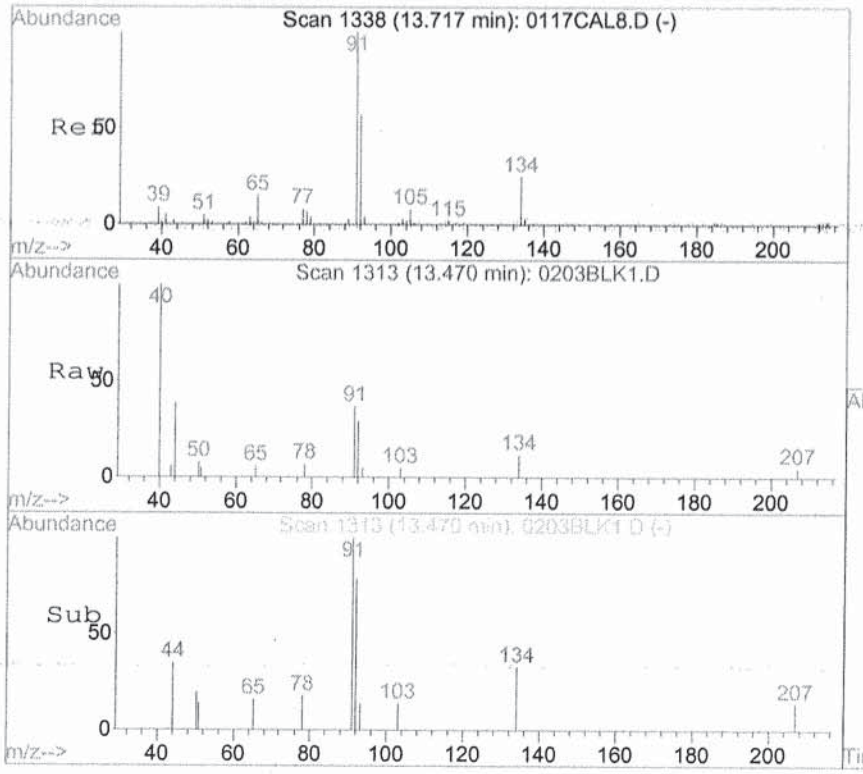


#97
p-Isopropyltoluene
Concen: 0.07 ug/L
RT: 13.08 min Scan# 1273
Delta R.T. -0.00 min
Lab File: 0203BLK1.D
Acq: 3 Feb 2015 12:34 pm

Tgt Ion:119 Resp: 1610

Ion	Ratio	Lower	Upper
119	100		
134	40.5	19.0	28.4#
91	94.0	23.1	34.7#

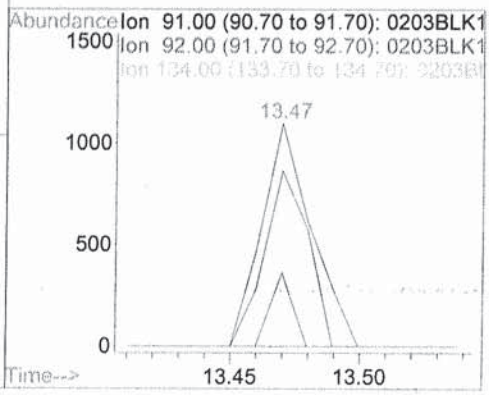


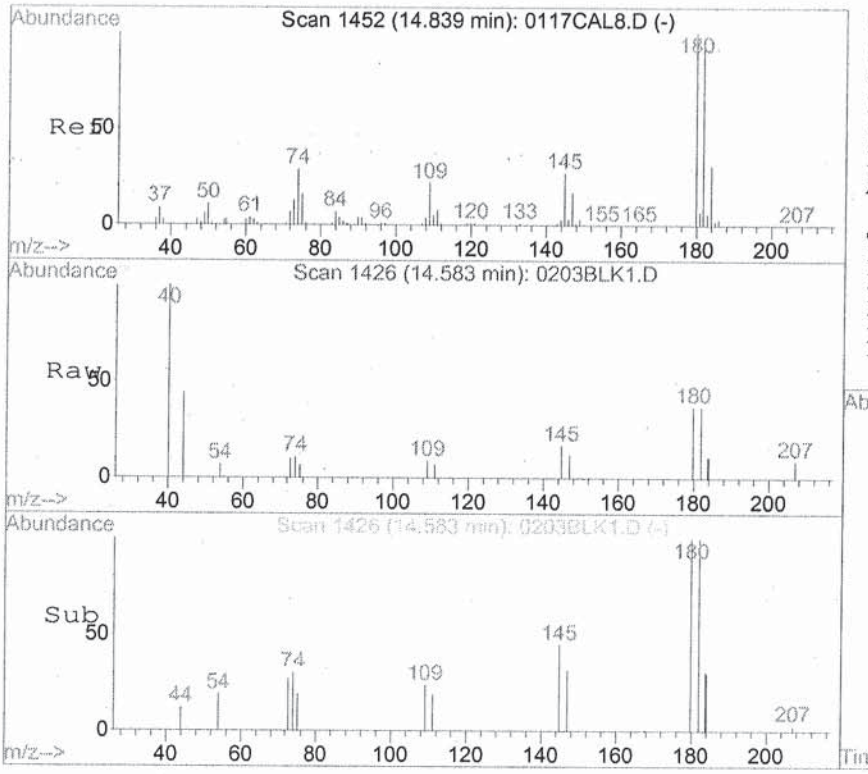


#99
n-Butylbenzene
Concen: 0.07 ug/L
RT: 13.47 min Scan# 1313
Delta R.T. -0.00 min
Lab File: 0203BLK1.D
Acq: 3 Feb 2015 12:34 pm

Tgt Ion: 91 Resp: 1462

Ion	Ratio	Lower	Upper
91	100		
92	69.7	45.0	67.4#
134	14.7	18.8	28.2#

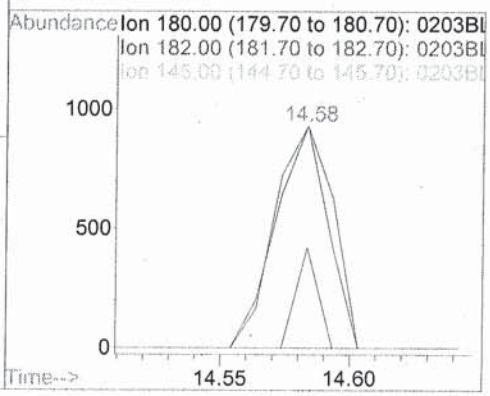


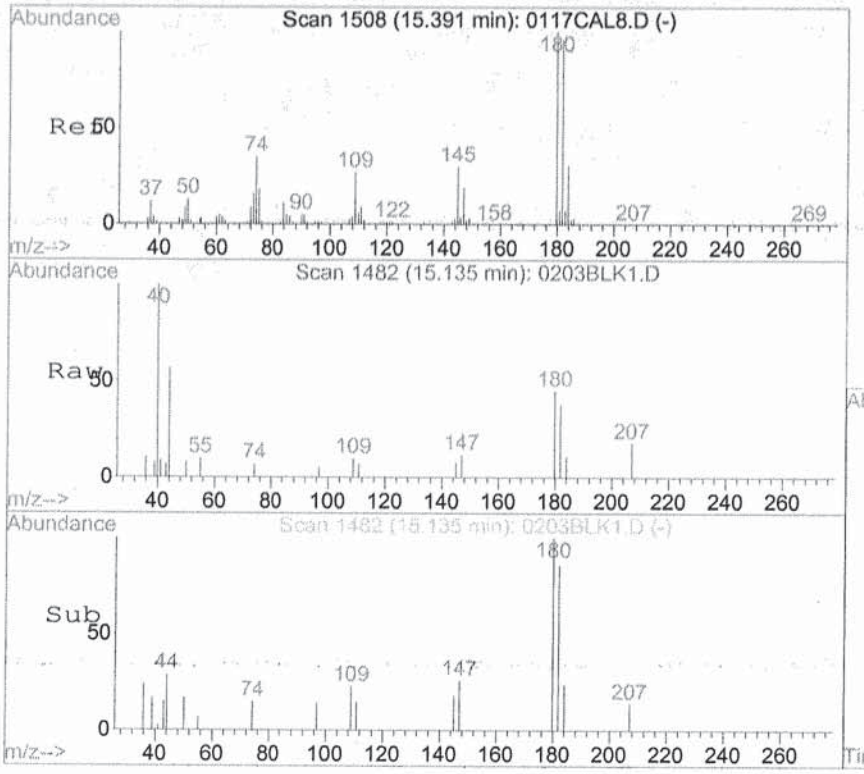


#101
1,3,5-Trichlorobenzene
Concen: 0.12 ug/L
RT: 14.58 min Scan# 1426
Delta R.T. -0.00 min
Lab File: 0203BLK1.D
Acq: 3 Feb 2015 12:34 pm

Tgt Ion:180 Resp: 1449

Ion	Ratio	Lower	Upper
180	100		
182	89.9	76.2	114.2
145	17.2	22.6	34.0#

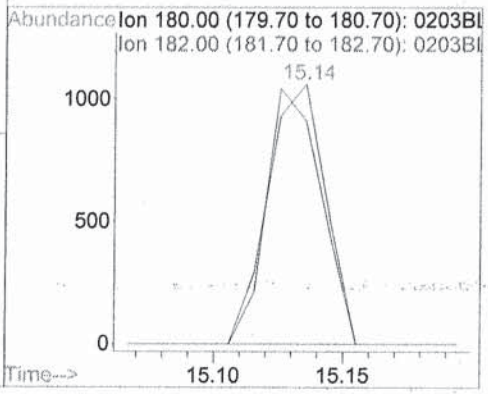


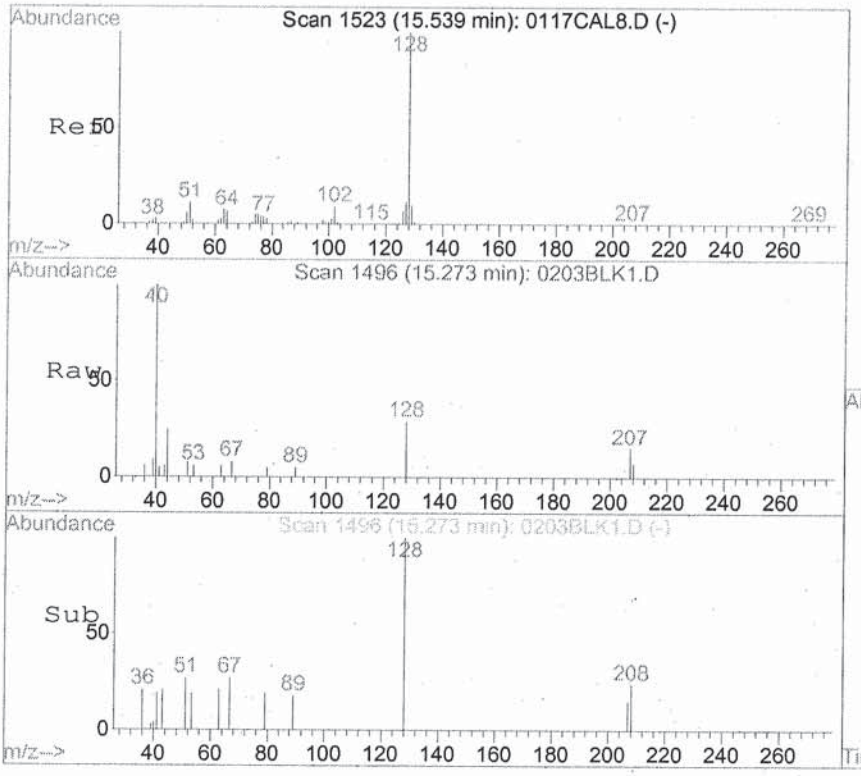


#102
1,2,4-Trichlorobenzene
Concen: 0.15 ug/L
RT: 15.14 min Scan# 1482
Delta R.T. -0.00 min
Lab File: 0203BLK1.D
Acq: 3 Feb 2015 12:34 pm

Tgt Ion:180 Resp: 1641

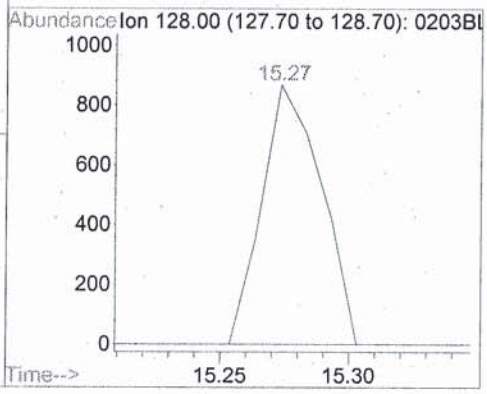
Ion	Ratio	Lower	Upper
180	100		
182	93.6	76.5	114.7

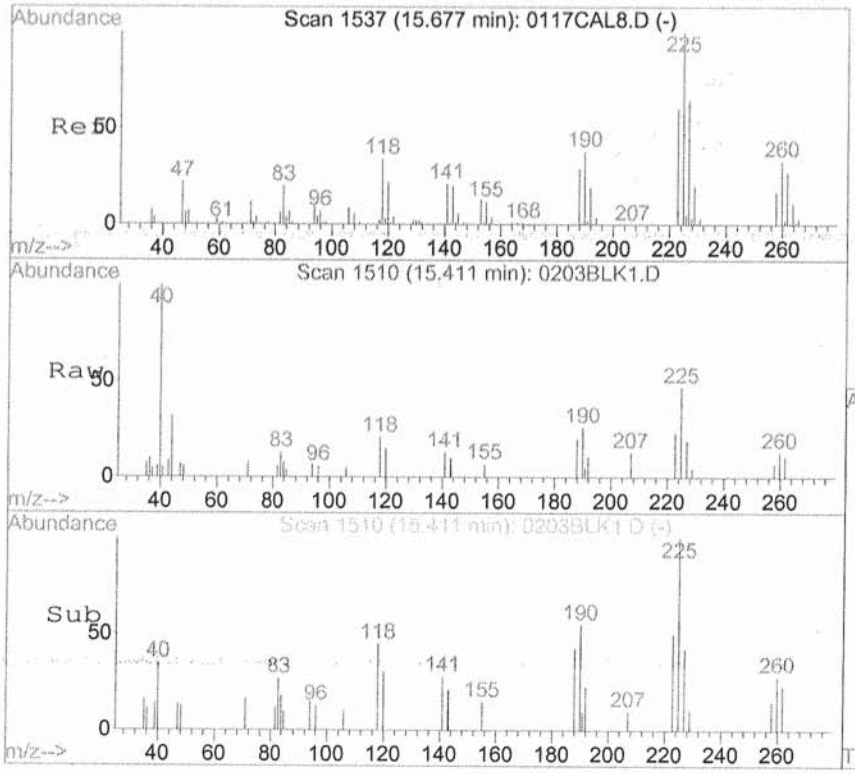




#103
Naphthalene
Concen: 0.65 ug/L
RT: 15.27 min Scan# 1496
Delta R.T. -0.01 min
Lab File: 0203BLK1.D
Acq: 3 Feb 2015 12:34 pm

Tgt Ion:128 Resp: 1386

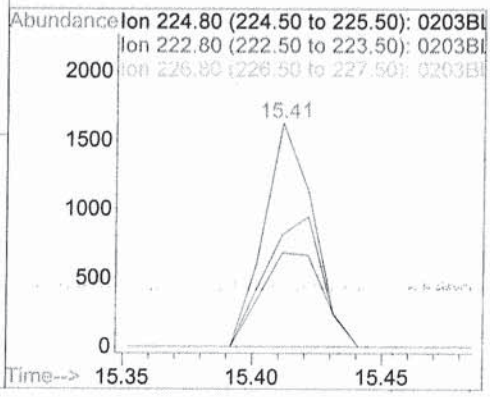




#104
Hexachlorobutadiene
Concen: 0.41 ug/L
RT: 15.41 min Scan# 1510
Delta R.T. -0.00 min
Lab File: 0203BLK1.D
Acq: 3 Feb 2015 12:34 pm

Tgt Ion:225 Resp: 2132

Ion	Ratio	Lower	Upper
225	100		
223	66.9	49.3	73.9
227	53.3	50.4	75.6



Quantitation Report (QT Reviewed)

Data File : D:\DATA\020315V6\0110203A.D Vial: 8
Acq On : 3 Feb 2015 1:02 pm Operator:
Sample : 1501102-03 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:12 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

02/16/15

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.58	96	883389	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.69	82	372895	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.08	152	360211	30.00	ug/L	0.00
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	345127	28.98	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 96.60%			
42) 1,2-Dichloroethane-d4	7.05	102	60049	28.75	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 95.83%			
61) Toluene-d8	9.28	98	817163	29.70	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 99.00%			
82) Bromofluorobenzene	11.89	95	361316	30.27	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 100.90%			
Target Compounds						Qvalue
35) Chloroform	6.37	83	1258	0.0698	ug/L	99
75) m,p-Xylene	10.99	91	1404	0.0567	ug/L #	86
97) p-Isopropyltoluene	13.07	119	1504	0.0704	ug/L #	3
99) n-Butylbenzene	13.47	91	1240	0.0613	ug/L #	84
101) 1,3,5-Trichlorobenzene	14.58	180	1259	0.1051	ug/L #	86
102) 1,2,4-Trichlorobenzene	15.13	180	1151	0.1035	ug/L	87
104) Hexachlorobutadiene	15.42	225	1372	0.2646	ug/L #	82

02/09/15

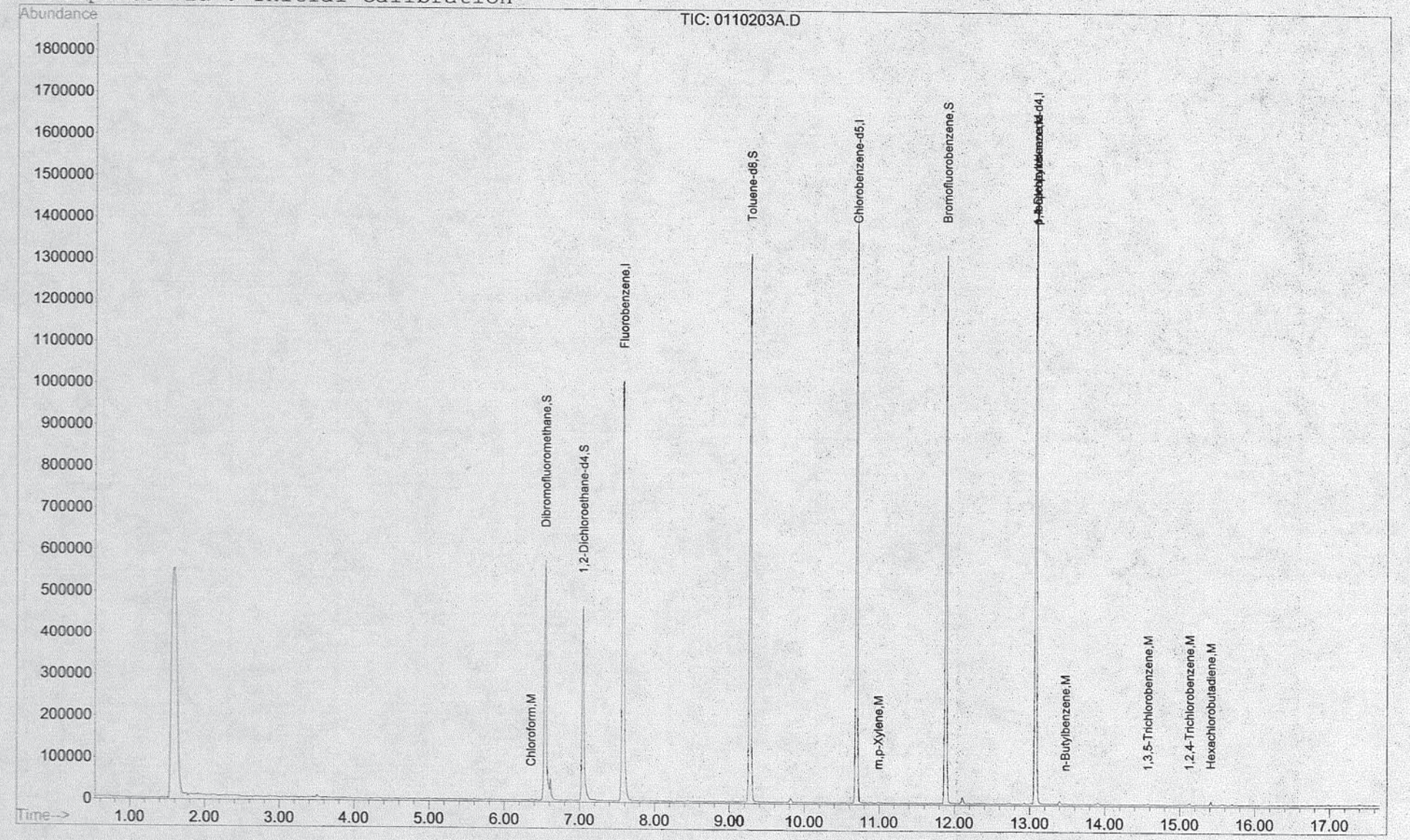
(#) = qualifier out of range (m) = manual integration

Data File : D:\DATA\020315V6\0110203A.D
Acq On : 3 Feb 2015 1:02 pm
Sample : 1501102-03
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:12 2015

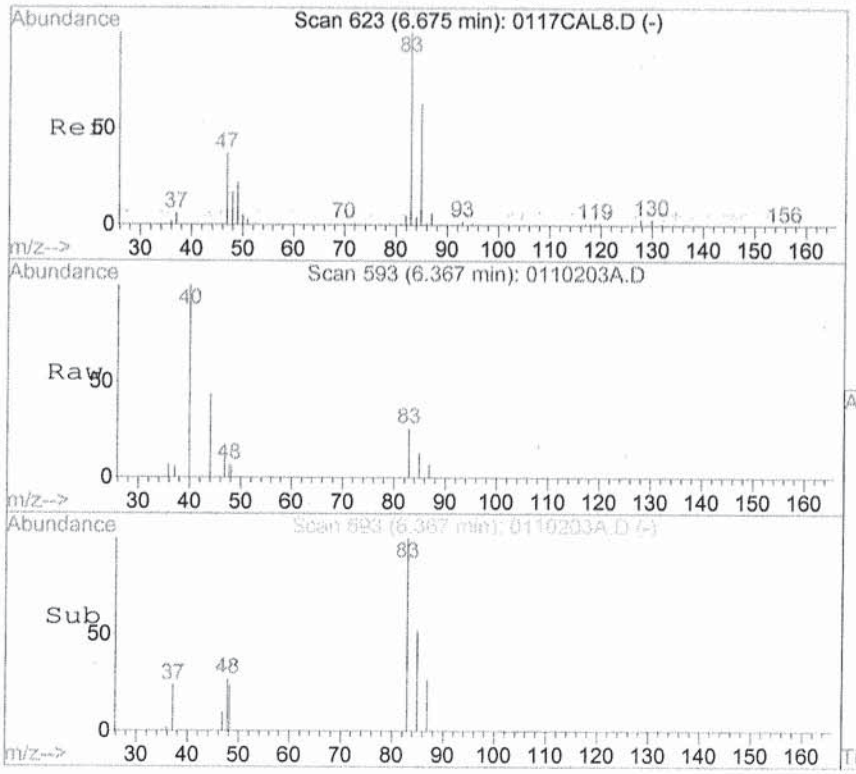
Vial: 8
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration



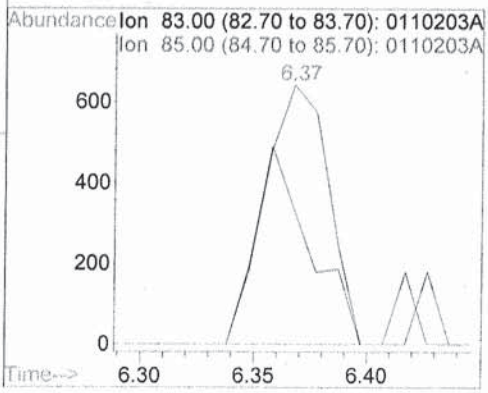
175
1501102

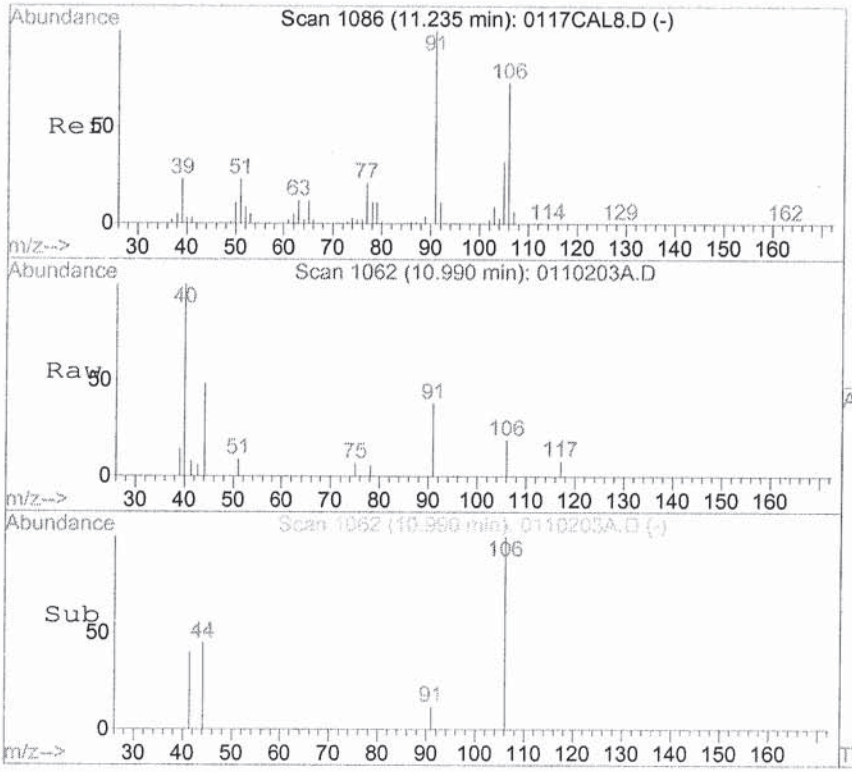


#35
Chloroform
Concen: 0.07 ug/L
RT: 6.37 min Scan# 593
Delta R.T. 0.00 min
Lab File: 0110203A.D
Acq: 3 Feb 2015 1:02 pm

Tgt Ion: 83 Resp: 1258

Ion	Ratio	Lower	Upper
83	100		
85	65.2	51.3	76.9

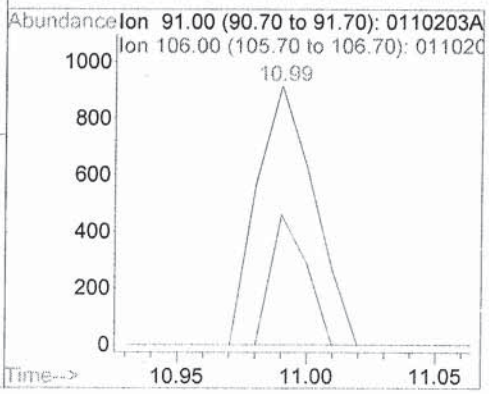


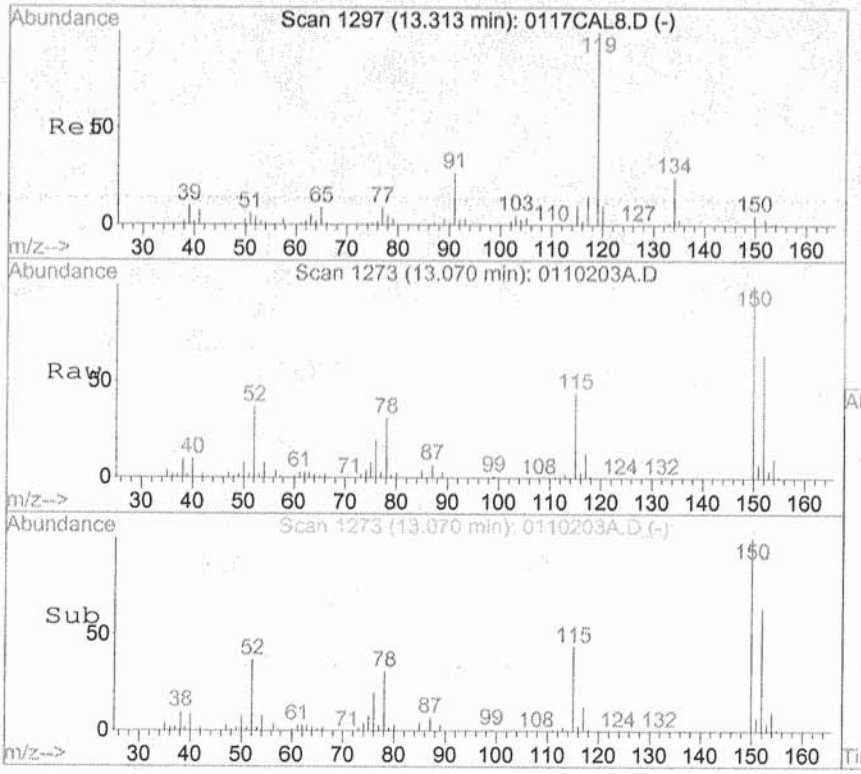


#75
m,p-Xylene
Concen: 0.06 ug/L
RT: 10.99 min Scan# 1062
Delta R.T. -0.01 min
Lab File: 0110203A.D
Acq: 3 Feb 2015 1:02 pm

Tgt Ion: 91 Resp: 1404

Ion	Ratio	Lower	Upper
91	100		
106	31.4	32.2	48.2#

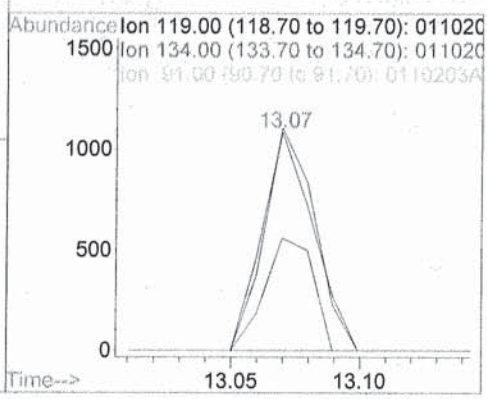


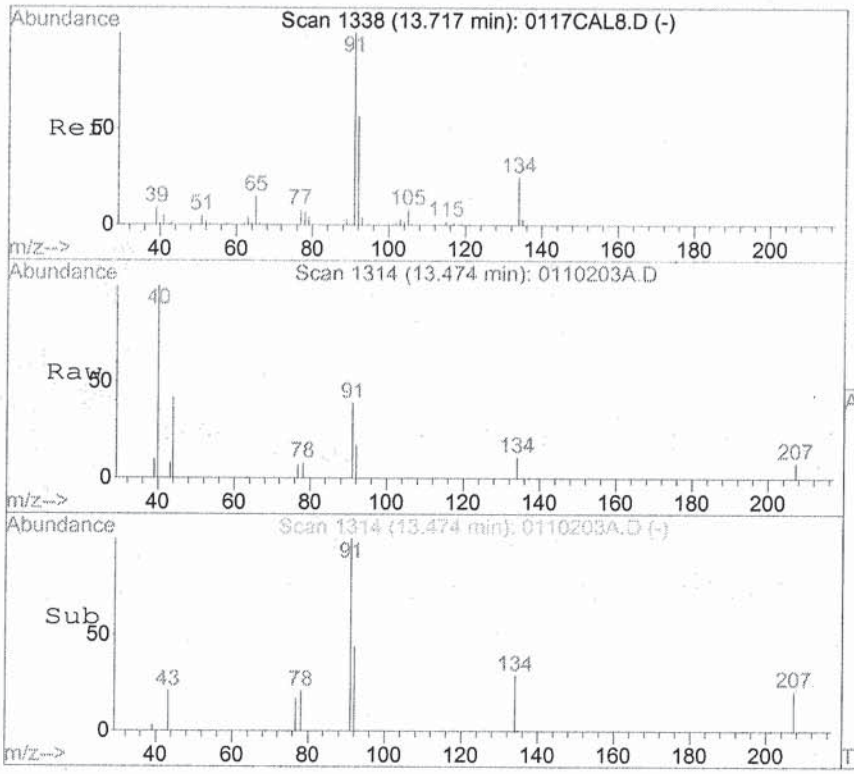


#97
p-Isopropyltoluene
Concen: 0.07 ug/L
RT: 13.07 min Scan# 1273
Delta R.T. -0.01 min
Lab File: 0110203A.D
Acq: 3 Feb 2015 1:02 pm

Tgt Ion:119 Resp: 1504

Ion	Ratio	Lower	Upper
119	100		
134	48.9	19.0	28.4#
91	100.1	23.1	34.7#

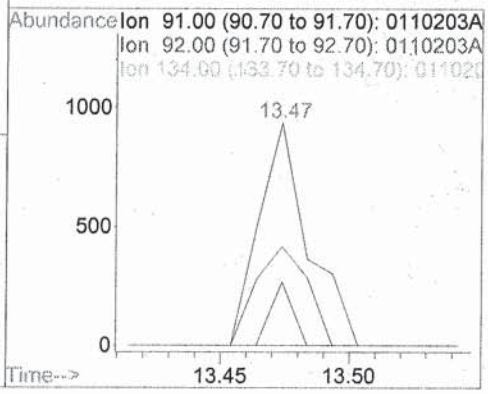


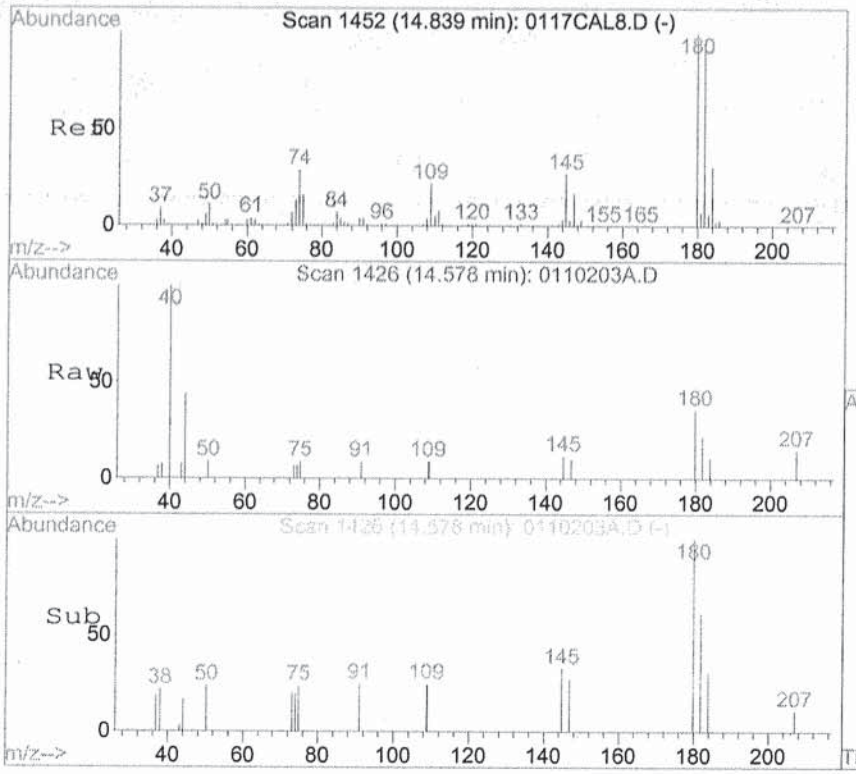


#99
n-Butylbenzene
Concen: 0.06 ug/L
RT: 13.47 min Scan# 1314
Delta R.T. 0.00 min
Lab File: 0110203A.D
Acq: 3 Feb 2015 1:02 pm

Tgt Ion: 91 Resp: 1240

Ion	Ratio	Lower	Upper
91	100		
92	46.6	45.0	67.4
134	12.8	18.8	28.2#

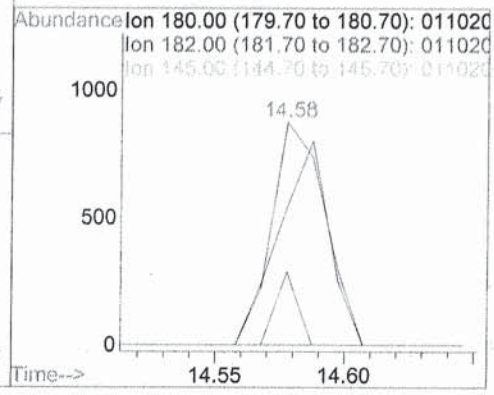


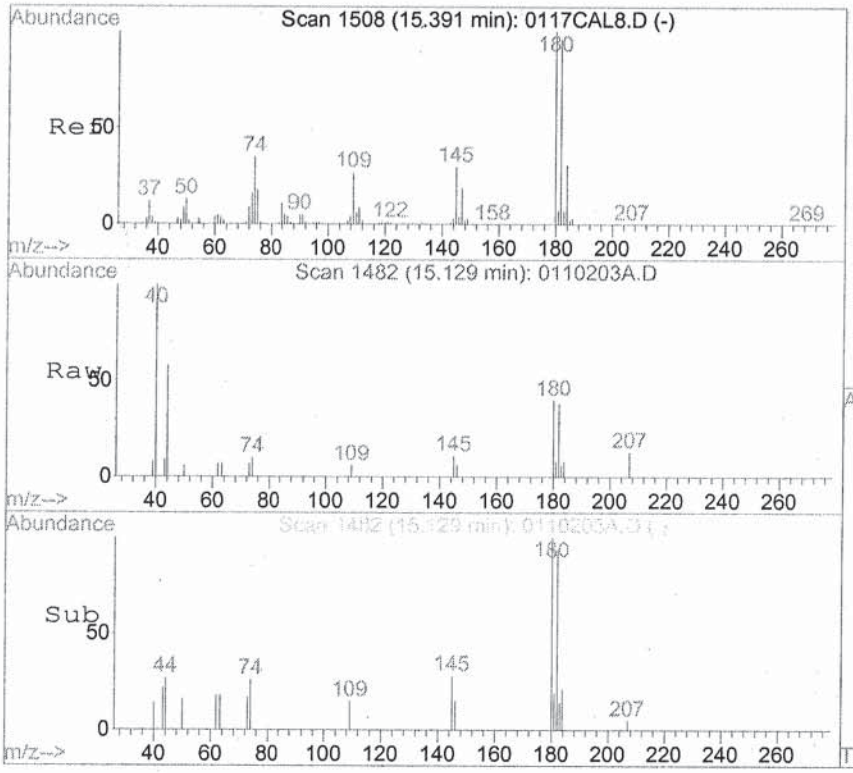


#101
1,3,5-Trichlorobenzene
Concen: 0.11 ug/L
RT: 14.58 min Scan# 1426
Delta R.T. -0.01 min
Lab File: 0110203A.D
Acq: 3 Feb 2015 1:02 pm

Tgt Ion:180 Resp: 1259

Ion	Ratio	Lower	Upper
180	100		
182	86.3	76.2	114.2
145	13.5	22.6	34.0#

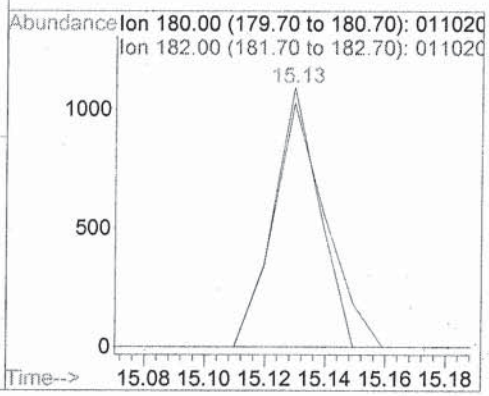


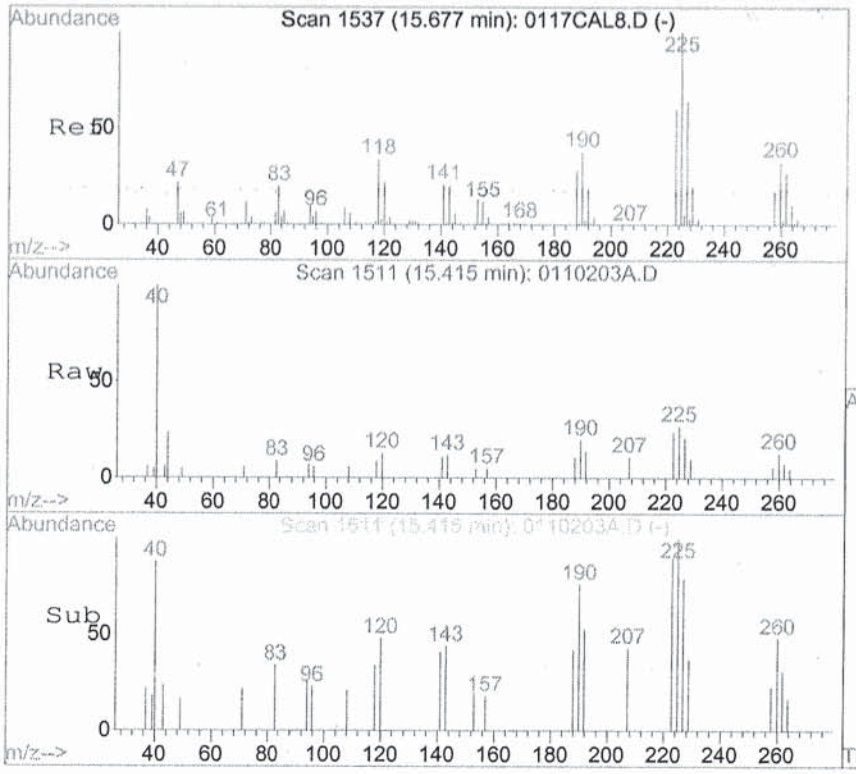


#102
1,2,4-Trichlorobenzene
Concen: 0.10 ug/L
RT: 15.13 min Scan# 1482
Delta R.T. -0.01 min
Lab File: 0110203A.D
Acq: 3 Feb 2015 1:02 pm

Tgt Ion:180 Resp: 1151

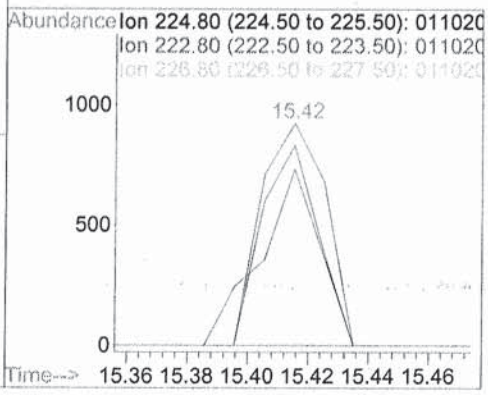
Ion	Ratio	Lower	Upper
180	100		
182	108.7	76.5	114.7





#104
Hexachlorobutadiene
Concen: 0.26 ug/L
RT: 15.42 min Scan# 1511
Delta R.T. 0.00 min
Lab File: 0110203A.D
Acq: 3 Feb 2015 1:02 pm

Tgt Ion:225	Resp:	1372	
Ion	Ratio	Lower	Upper
225	100		
223	78.6	49.3	73.9#
227	73.3	50.4	75.6



Data File : D:\DATA\020315V6\0110201B.D
Acq On : 3 Feb 2015 2:52 pm
Sample : 1501102-01
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:25 2015

Vial: 12
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.58	96	812690	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.69	82	356172	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.07	152	346971	30.00	ug/L	-0.01
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	326365	29.79	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 99.30%			
42) 1,2-Dichloroethane-d4	7.04	102	55893	29.09	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 96.97%			
61) Toluene-d8	9.27	98	767281	29.20	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 97.33%			
82) Bromofluorobenzene	11.88	95	335587	29.44	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 98.13%			
Target Compounds						Qvalue
7) Trichlorofluoromethane	3.10	101	3427	0.2602	ug/L	99
23) 1,1-Dichloroethane	5.38	63	1028	0.0707	ug/L #	76
35) Chloroform	6.36	83	7801	0.4703	ug/L	93
41) 1,1,1-Trichloroethane	6.92	97	1462	0.1033	ug/L #	71
46) Carbon tetrachloride	7.27	117	55128	4.6194	ug/L	98
49) Trichloroethene	8.08	95	7820	0.8826	ug/L	99
93) 1,2,4-Trimethylbenzene	12.73	105	1744	0.0678	ug/L #	84
97) p-Isopropyltoluene	13.07	119	1359	0.0660	ug/L #	23
99) n-Butylbenzene	13.47	91	1266	0.0649	ug/L #	75
104) Hexachlorobutadiene	15.41	225	1632	0.3268	ug/L	93

02/09/15

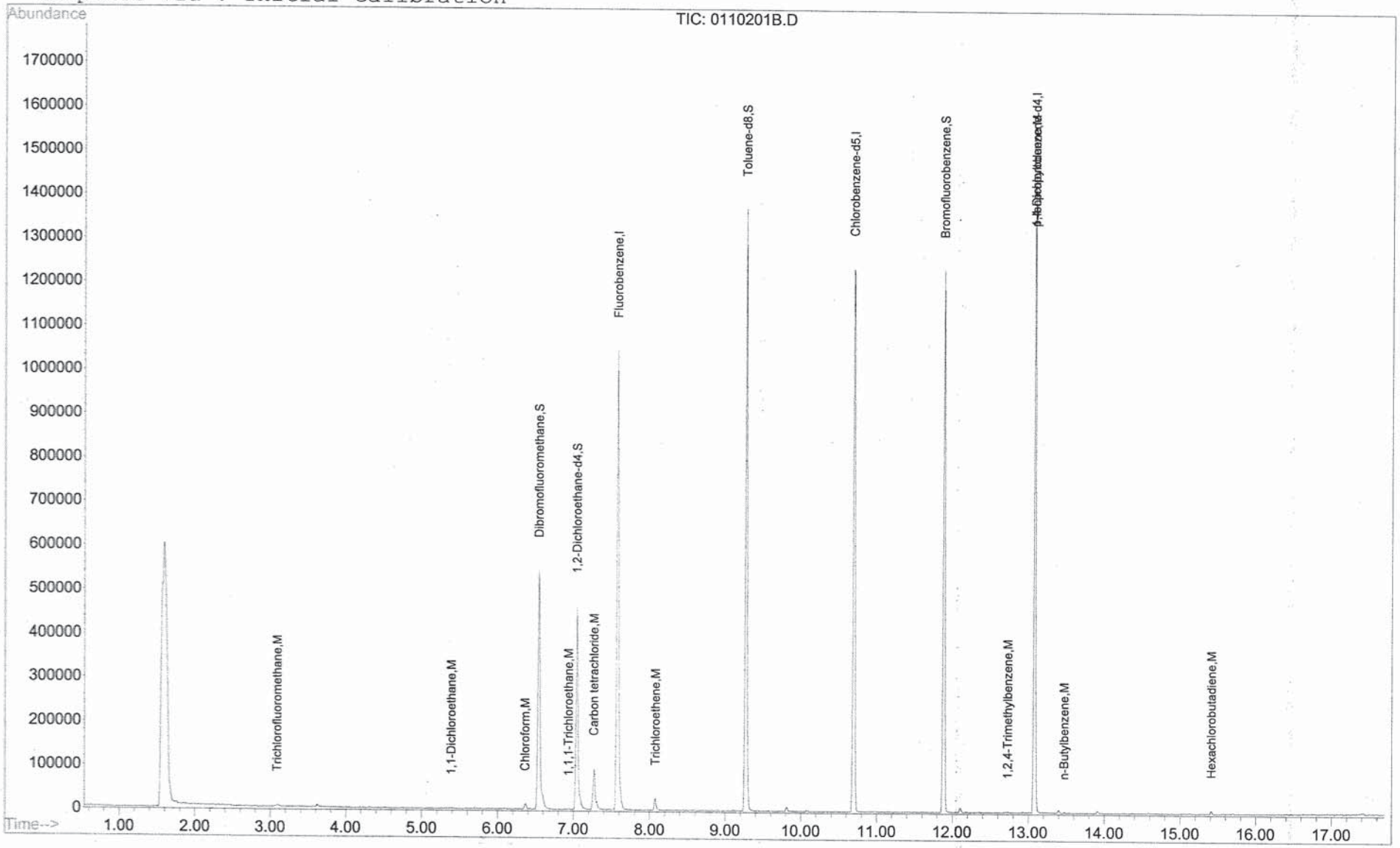
(#) = qualifier out of range (m) = manual integration

Data File : D:\DATA\020315V6\0110201B.D
Acq On : 3 Feb 2015 2:52 pm
Sample : 1501102-01
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:25 2015

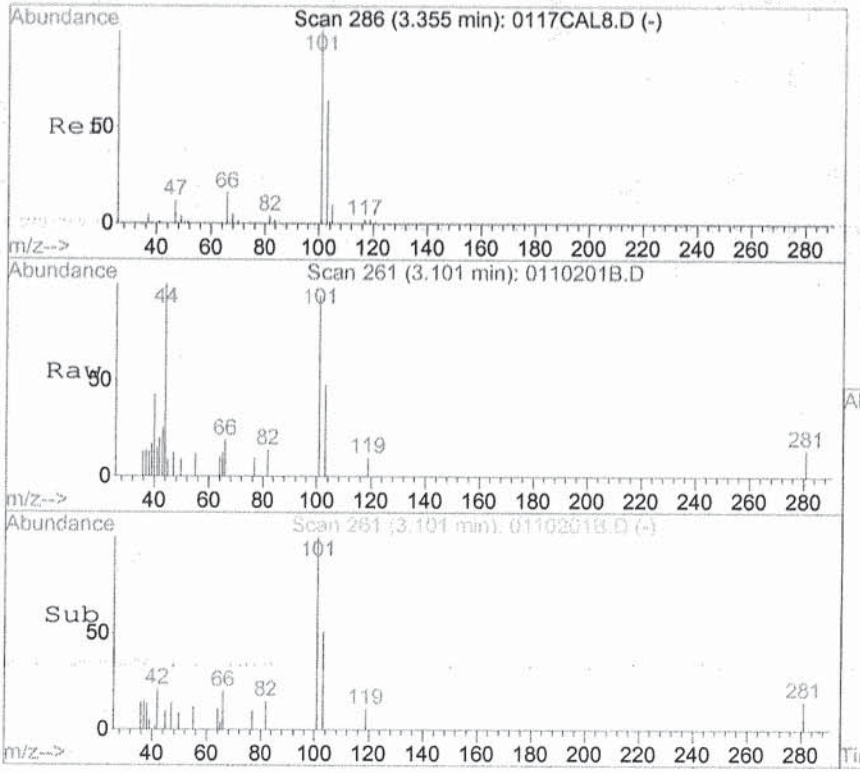
Vial: 12
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration



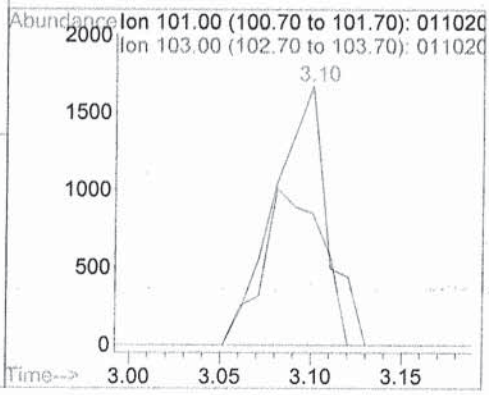
181
1501102

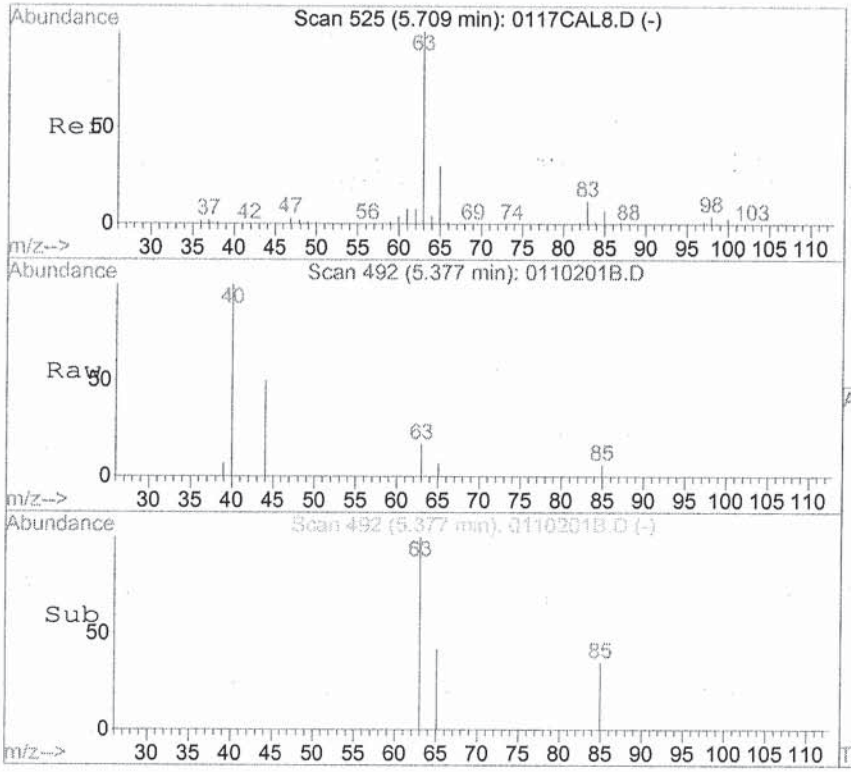


#7
Trichlorofluoromethane
Concen: 0.26 ug/L
RT: 3.10 min Scan# 261
Delta R.T. 0.01 min
Lab File: 0110201B.D
Acq: 3 Feb 2015 2:52 pm

Tgt Ion:101 Resp: 3427

Ion	Ratio	Lower	Upper
101	100		
103	67.1	53.0	79.4

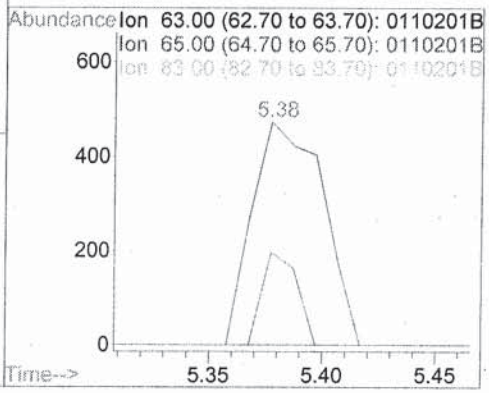


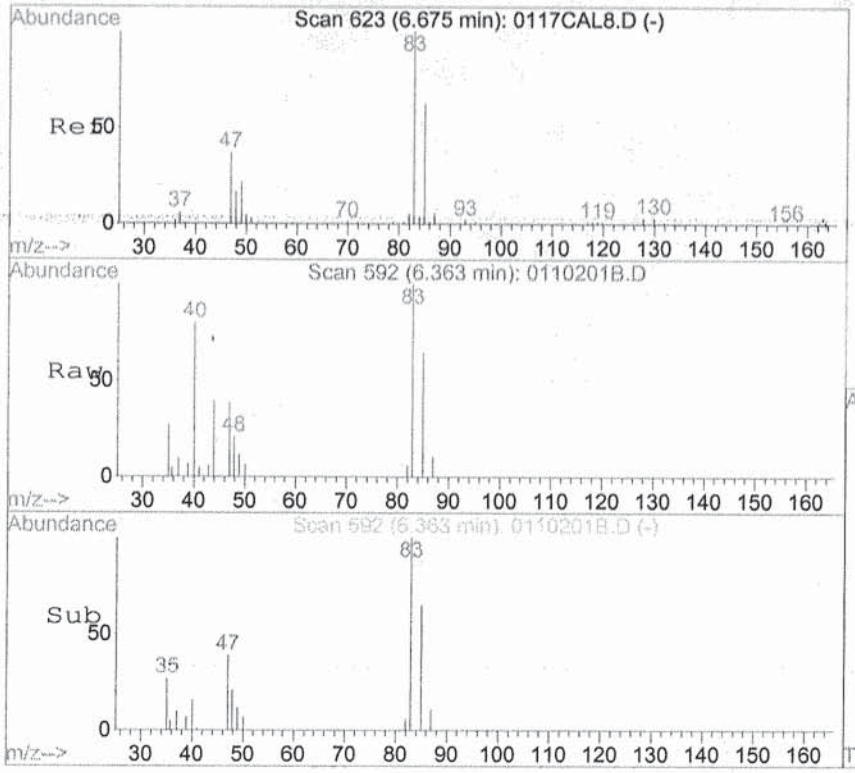


#23
1,1-Dichloroethane
Concen: 0.07 ug/L
RT: 5.38 min Scan# 492
Delta R.T. -0.01 min
Lab File: 0110201B.D
Acq: 3 Feb 2015 2:52 pm

Tgt Ion: 63 Resp: 1028

Ion	Ratio	Lower	Upper
63	100		
65	20.7	24.9	37.3#
83	0.0	11.8	17.8#

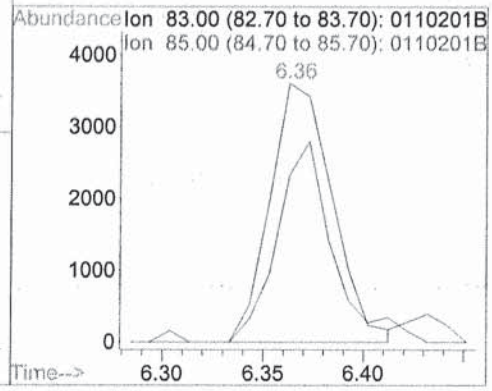


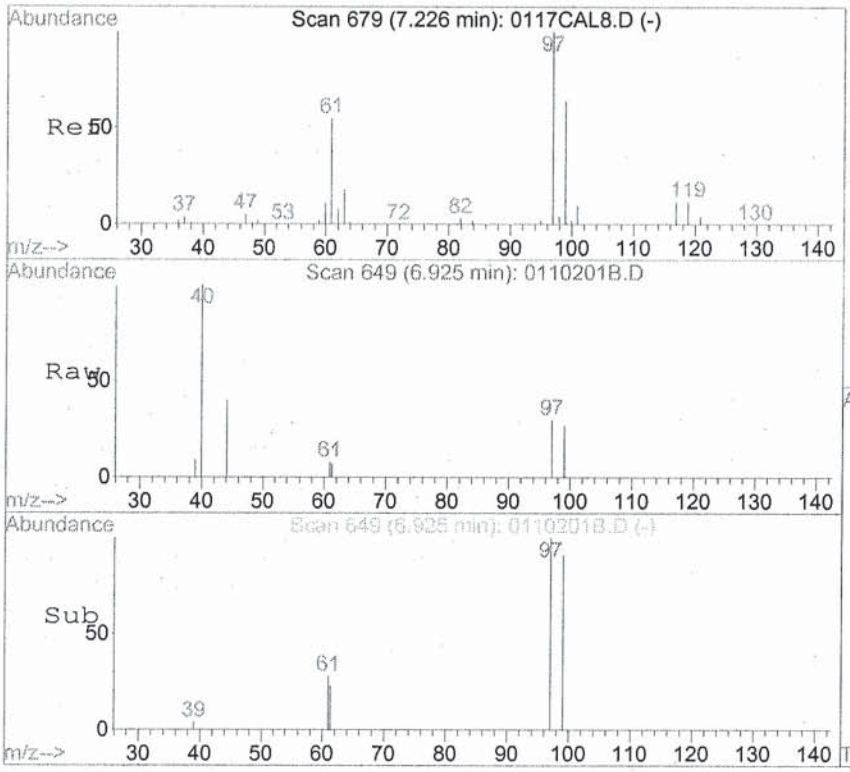


#35
Chloroform
Concen: 0.47 ug/L
RT: 6.36 min Scan# 592
Delta R.T. -0.00 min
Lab File: 0110201B.D
Acq: 3 Feb 2015 2:52 pm

Tgt Ion: 83 Resp: 7801

Ion	Ratio	Lower	Upper
83	100		
85	69.6	51.3	76.9

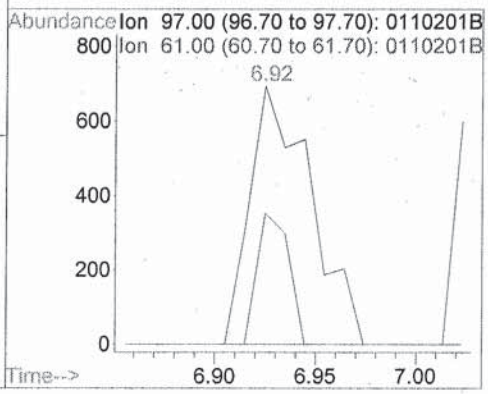


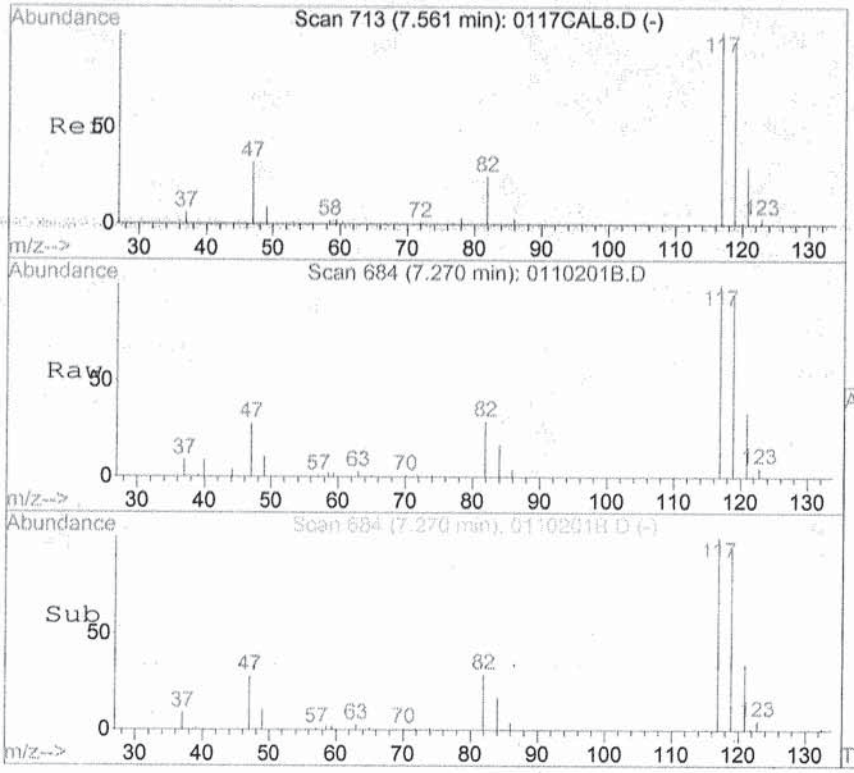


#41
1,1,1-Trichloroethane
Concen: 0.10 ug/L
RT: 6.92 min Scan# 649
Delta R.T. -0.00 min
Lab File: 0110201B.D
Acq: 3 Feb 2015 2:52 pm

Tgt Ion: 97 Resp: 1462

Ion	Ratio	Lower	Upper
97	100		
61	26.3	36.6	54.8#

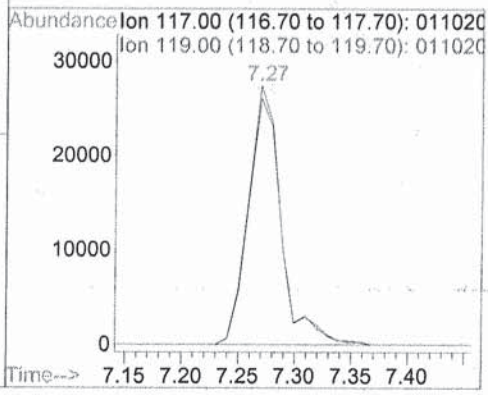


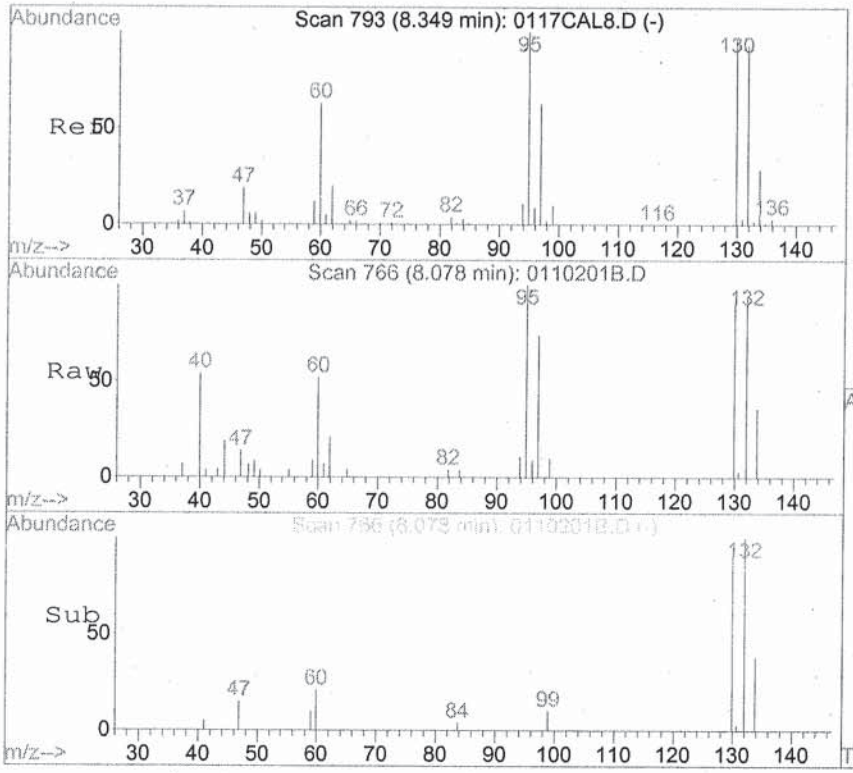


#46
Carbon tetrachloride
Concen: 4.62 ug/L
RT: 7.27 min Scan# 684
Delta R.T. -0.00 min
Lab File: 0110201B.D
Acq: 3 Feb 2015 2:52 pm

Tgt Ion:117 Resp: 55128

Ion	Ratio	Lower	Upper
117	100		
119	96.6	75.4	113.0

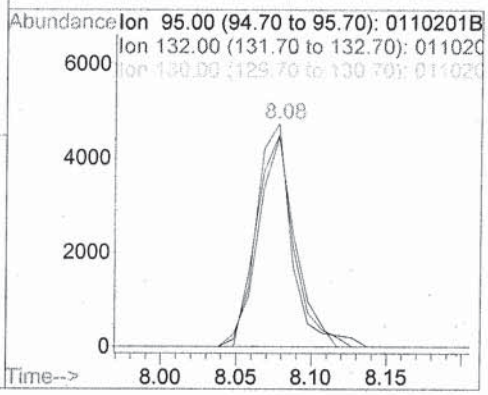


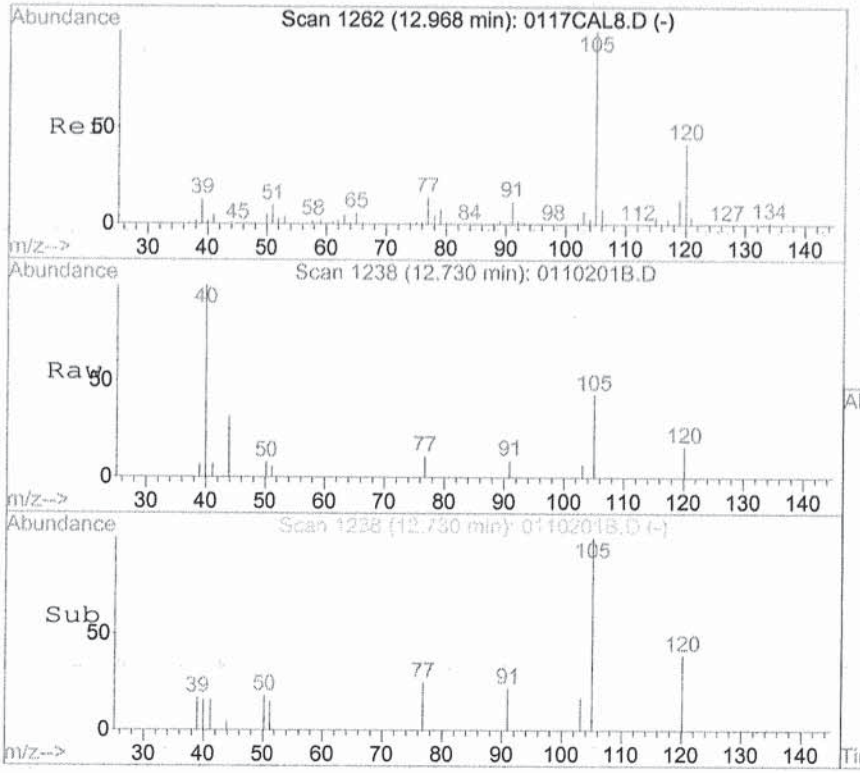


#49
Trichloroethene
Concen: 0.88 ug/L
RT: 8.08 min Scan# 766
Delta R.T. 0.01 min
Lab File: 0110201B.D
Acq: 3 Feb 2015 2:52 pm

Tgt Ion: 95 Resp: 7820

Ion	Ratio	Lower	Upper
95	100		
132	97.5	78.6	118.0
130	99.1	79.6	119.4

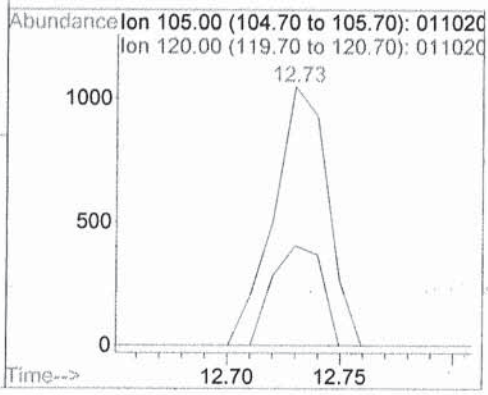


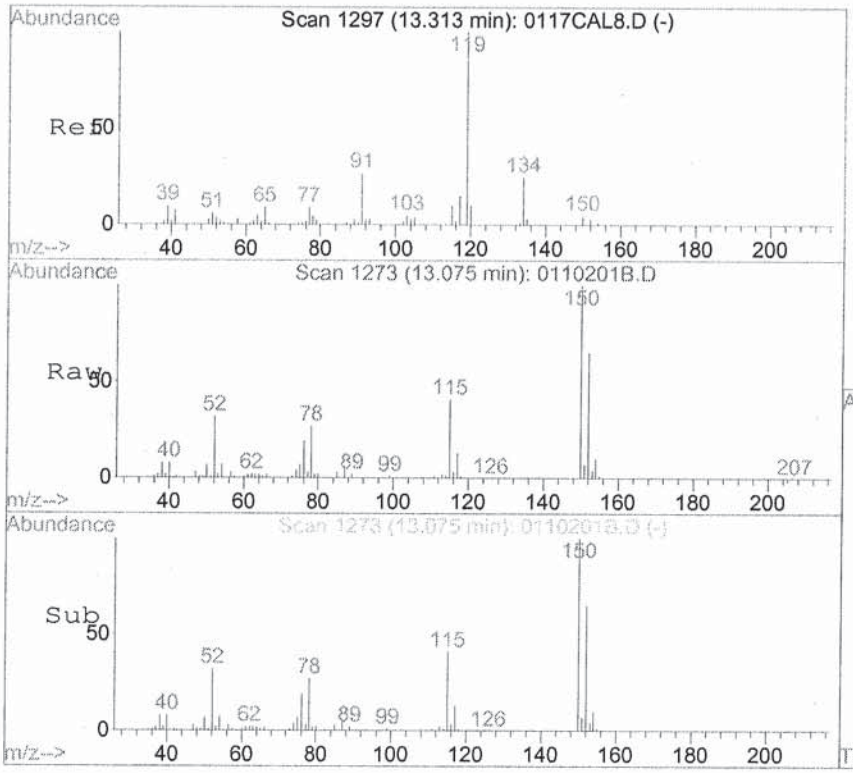


#93
1,2,4-Trimethylbenzene
Concen: 0.07 ug/L
RT: 12.73 min Scan# 1238
Delta R.T. -0.00 min
Lab File: 0110201B.D
Acq: 3 Feb 2015 2:52 pm

Tgt Ion:105 Resp: 1744

Ion	Ratio	Lower	Upper
105	100		
120	35.8	37.0	55.6#

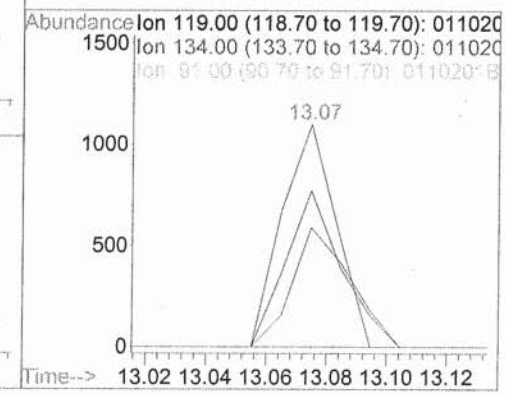


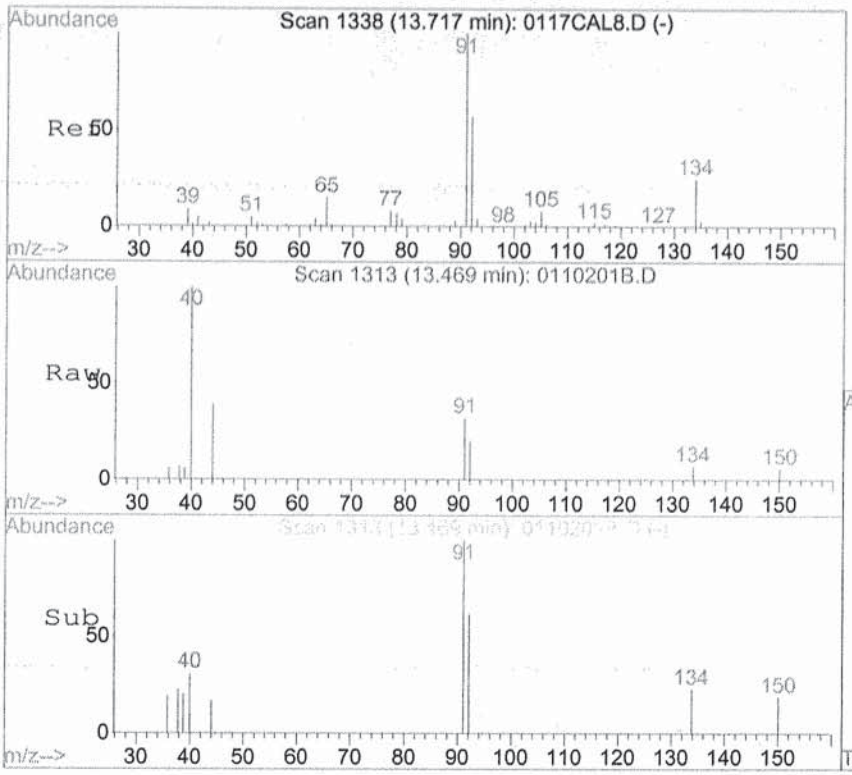


#97
p-Isopropyltoluene
Concen: 0.07 ug/L
RT: 13.07 min Scan# 1273
Delta R.T. -0.00 min
Lab File: 0110201B.D
Acq: 3 Feb 2015 2:52 pm

Tgt Ion:119 Resp: 1359

Ion	Ratio	Lower	Upper
119	100		
134	58.3	19.0	28.4#
91	73.0	23.1	34.7#

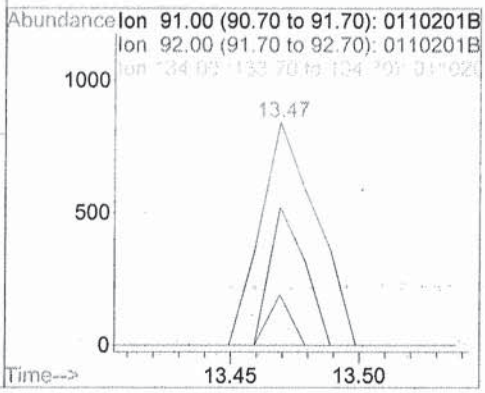


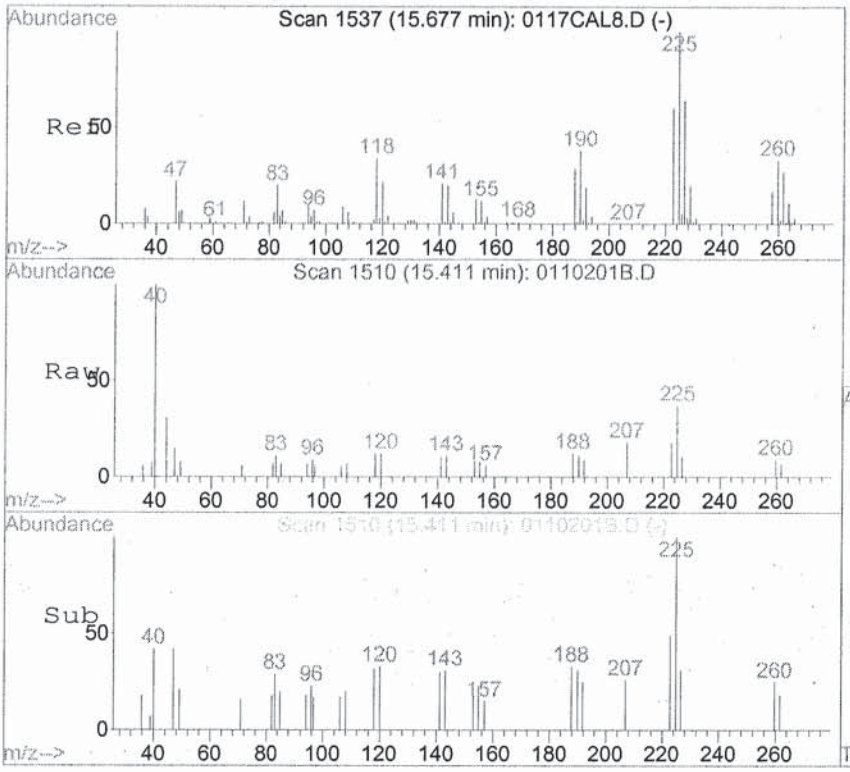


#99
n-Butylbenzene
Concen: 0.06 ug/L
RT: 13.47 min Scan# 1313
Delta R.T. -0.00 min
Lab File: 0110201B.D
Acq: 3 Feb 2015 2:52 pm

Tgt Ion: 91 Resp: 1266

Ion	Ratio	Lower	Upper
91	100		
92	39.1	45.0	67.4#
134	9.0	18.8	28.2#

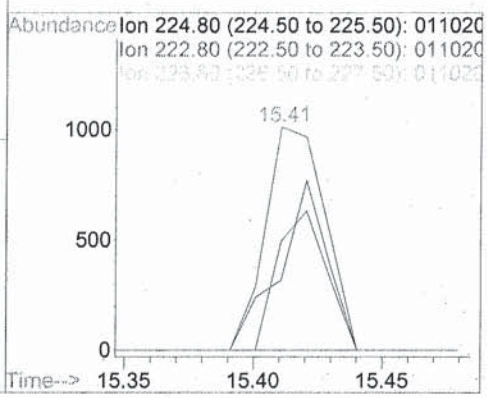




#104
Hexachlorobutadiene
Concen: 0.33 ug/L
RT: 15.41 min Scan# 1510
Delta R.T. -0.00 min
Lab File: 0110201B.D
Acq: 3 Feb 2015 2:52 pm

Tgt Ion:225 Resp: 1632

Ion	Ratio	Lower	Upper
225	100		
223	51.9	49.3	73.9
227	61.2	50.4	75.6



Quantitation Report (QT Reviewed)

Data File : D:\DATA\020315V6\0110202B.D
Acq On : 3 Feb 2015 3:19 pm
Sample : 1501102-02
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:27 2015

Vial: 13
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.57	96	827281	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.69	82	355717	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.08	152	342966	30.00	ug/L	0.00
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	333683	29.92	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery =	99.73%		
42) 1,2-Dichloroethane-d4	7.04	102	56325	28.79	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery =	95.97%		
61) Toluene-d8	9.27	98	775891	29.56	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery =	98.53%		
82) Bromofluorobenzene	11.88	95	333696	29.31	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery =	97.70%		
Target Compounds						Qvalue
35) Chloroform	6.37	83	24625	1.4584	ug/L	97
46) Carbon tetrachloride	7.27	117	6323	0.6621	ug/L	91
74) Ethylbenzene	10.89	91	2422	0.0760	ug/L #	83
75) m,p-Xylene	10.99	91	6346	0.2685	ug/L	91
77) o-Xylene	11.38	91	4766	0.1959	ug/L	88
97) p-Isopropyltoluene	13.07	119	1121	0.0551	ug/L #	16
104) Hexachlorobutadiene	15.41	225	1129	0.2287	ug/L #	84

02/09/15

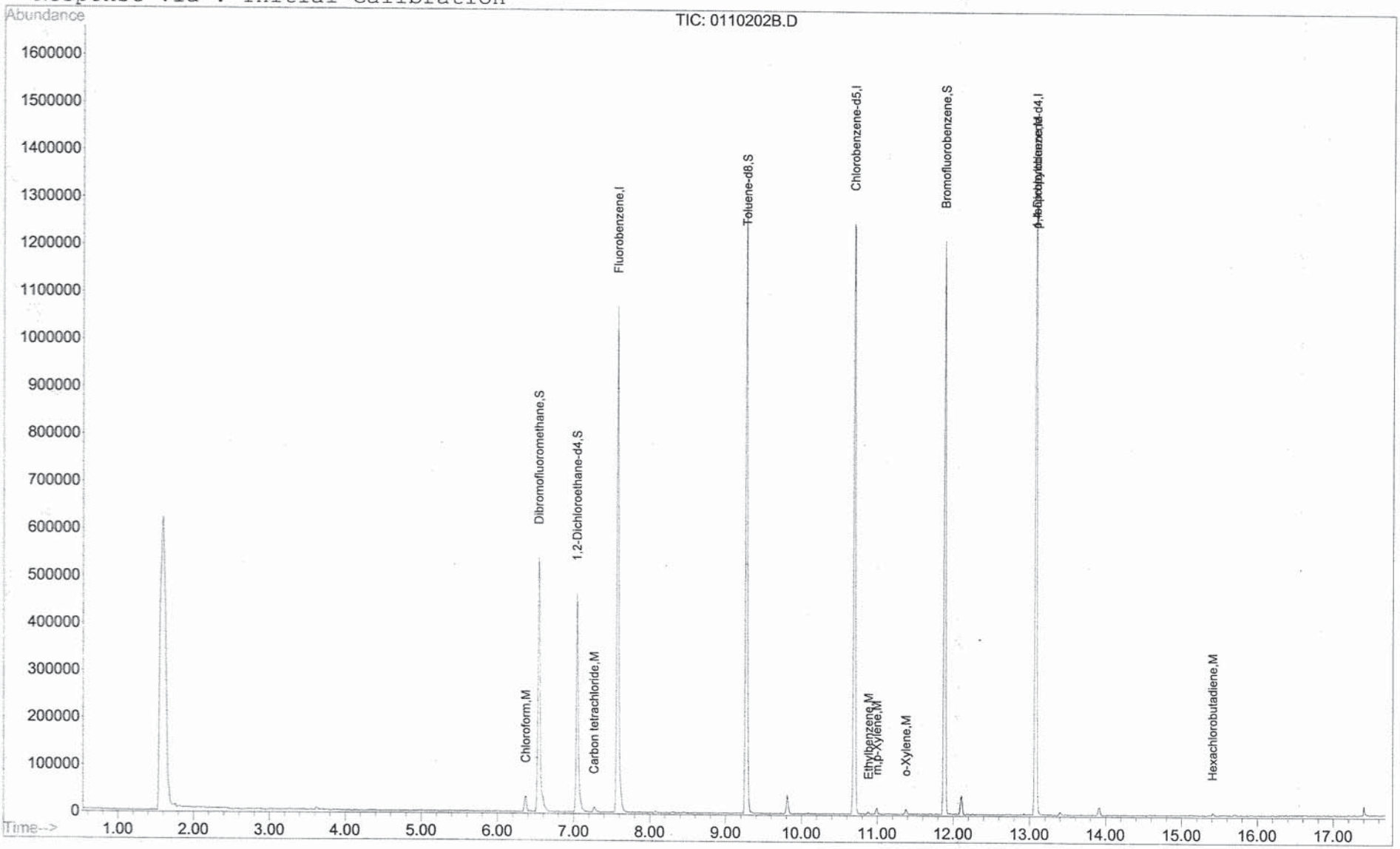
(#) = qualifier out of range (m) = manual integration

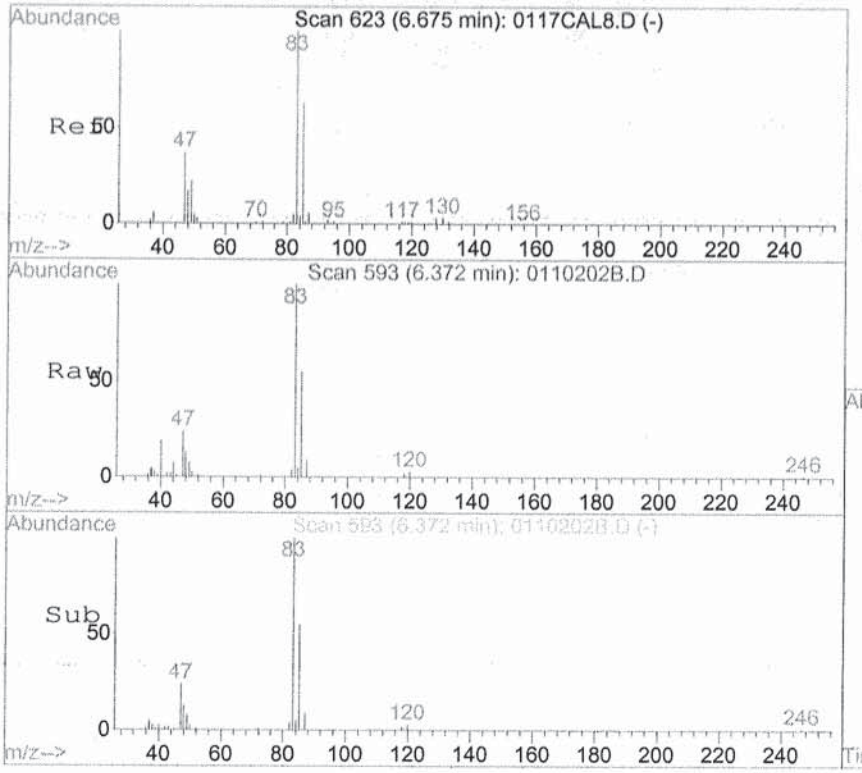
Data File : D:\DATA\020315V6\0110202B.D
Acq On : 3 Feb 2015 3:19 pm
Sample : 1501102-02
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:27 2015

Vial: 13
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration

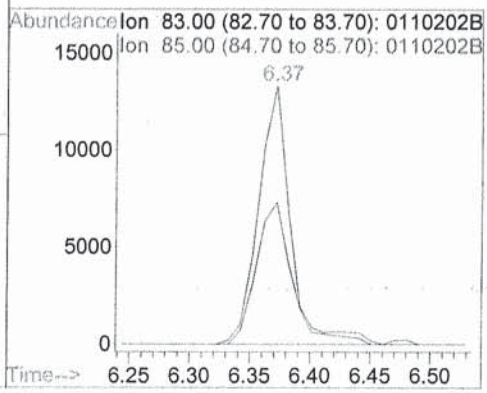


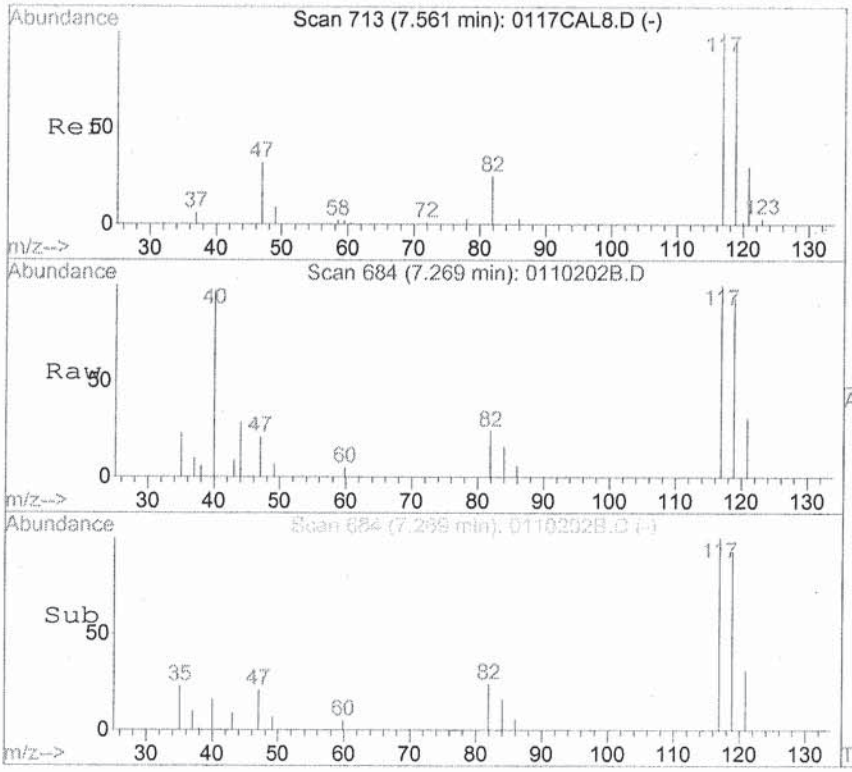


#35
Chloroform
Concen: 1.46 ug/L
RT: 6.37 min Scan# 593
Delta R.T. 0.00 min
Lab File: 0110202B.D
Acq: 3 Feb 2015 3:19 pm

Tgt Ion: 83 Resp: 24625

Ion	Ratio	Lower	Upper
83	100		
85	61.6	51.3	76.9

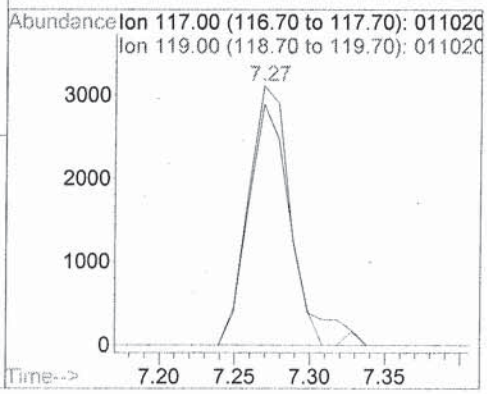


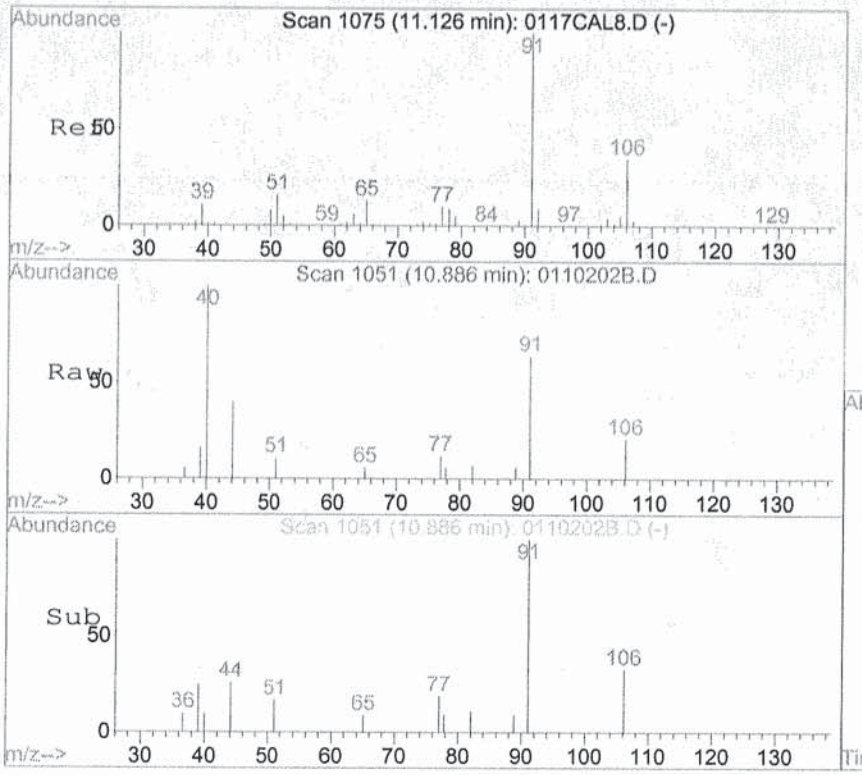


#46
Carbon tetrachloride
Concen: 0.66 ug/L
RT: 7.27 min Scan# 684
Delta R.T. -0.01 min
Lab File: 0110202B.D
Acq: 3 Feb 2015 3:19 pm

Tgt Ion:117 Resp: 6323

Ion	Ratio	Lower	Upper
117	100		
119	85.7	75.4	113.0

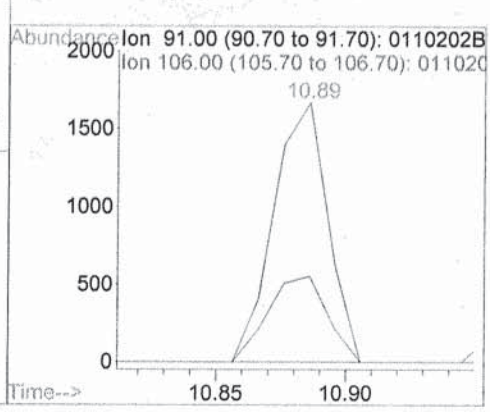


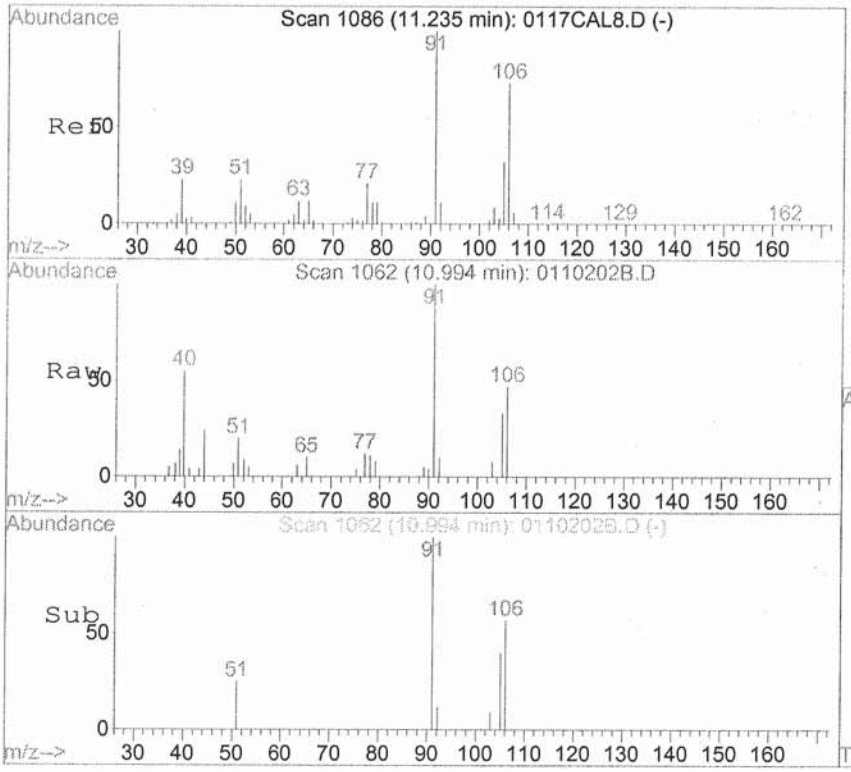


#74
Ethylbenzene
Concen: 0.08 ug/L
RT: 10.89 min Scan# 1051
Delta R.T. -0.01 min
Lab File: 0110202B.D
Acq: 3 Feb 2015 3:19 pm

Tgt Ion: 91 Resp: 2422

Ion	Ratio	Lower	Upper
91	100		
106	36.2	21.8	32.6#

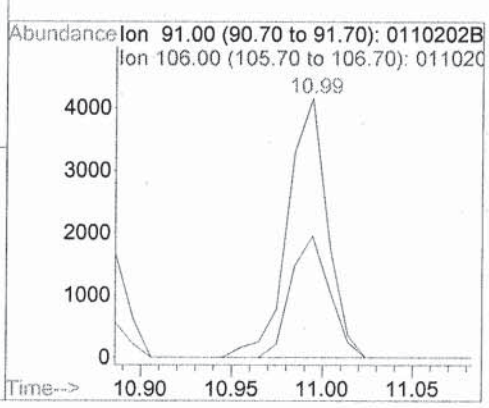


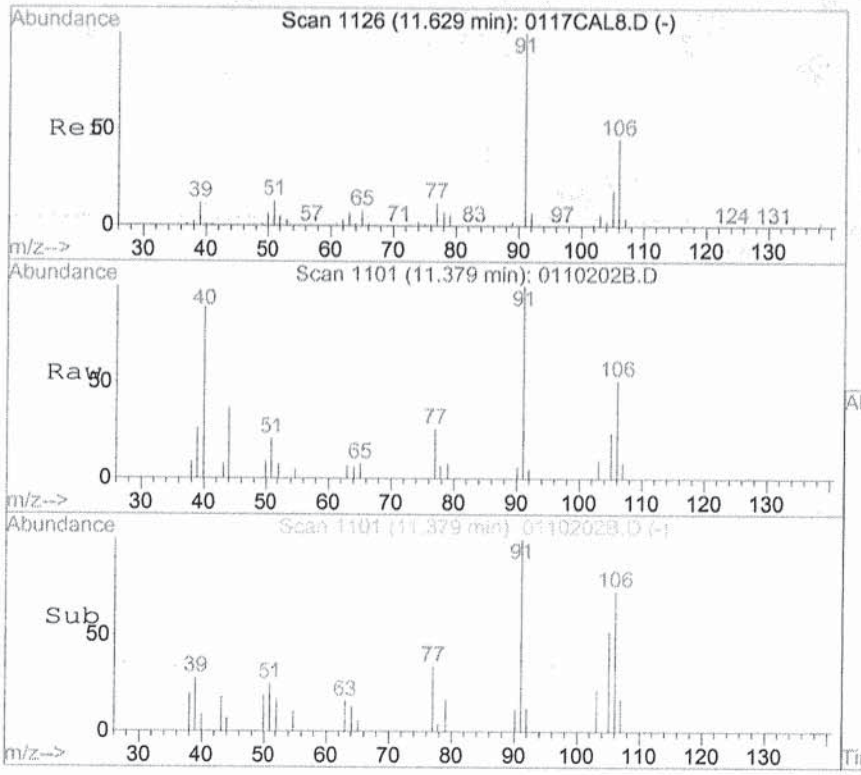


#75
m,p-Xylene
Concen: 0.27 ug/L
RT: 10.99 min Scan# 1062
Delta R.T. -0.01 min
Lab File: 0110202B.D
Acq: 3 Feb 2015 3:19 pm

Tgt Ion: 91 Resp: 6346

Ion	Ratio	Lower	Upper
91	100		
106	46.0	32.2	48.2

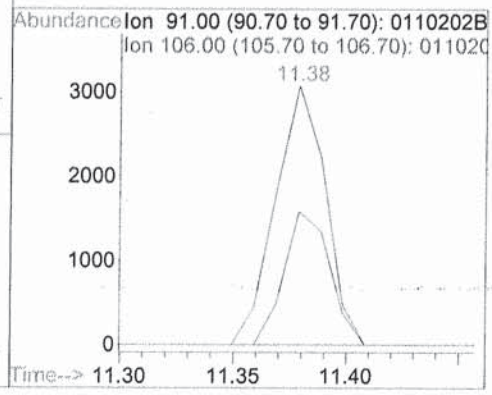


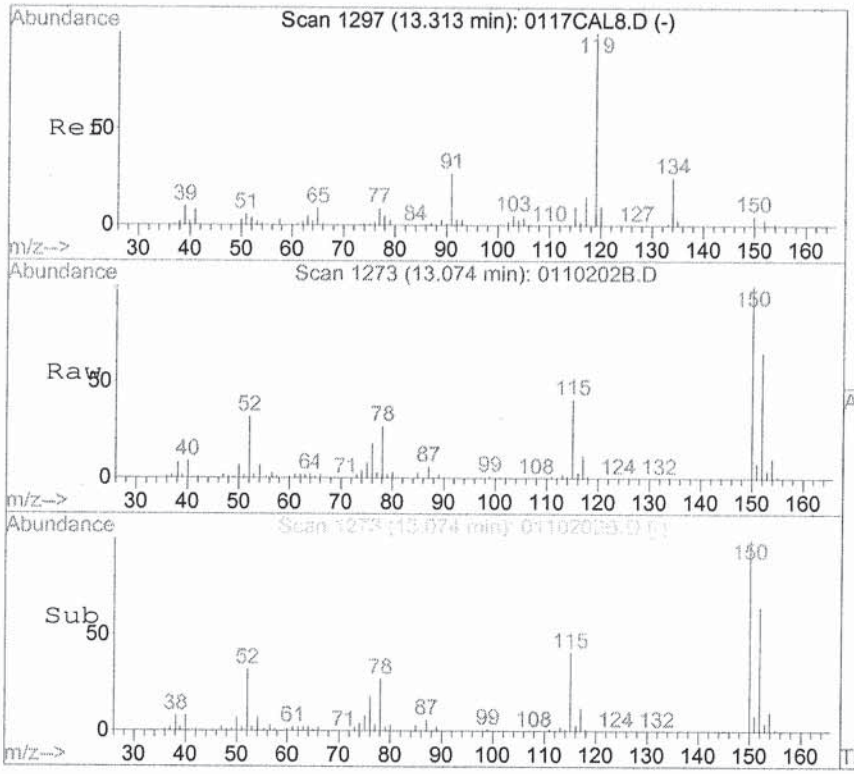


#77
o-Xylene
Concen: 0.20 ug/L
RT: 11.38 min Scan# 1101
Delta R.T. -0.01 min
Lab File: 0110202B.D
Acq: 3 Feb 2015 3:19 pm

Tgt Ion: 91 Resp: 4766

Ion	Ratio	Lower	Upper
91	100		
106	47.2	32.0	48.0

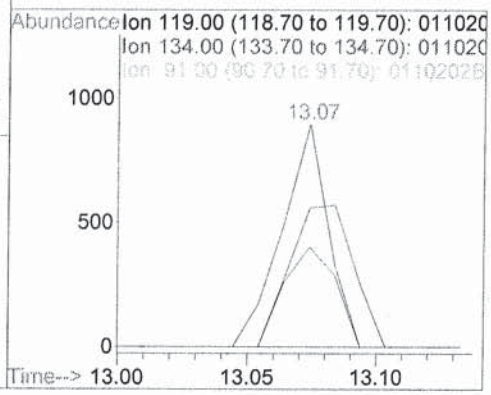


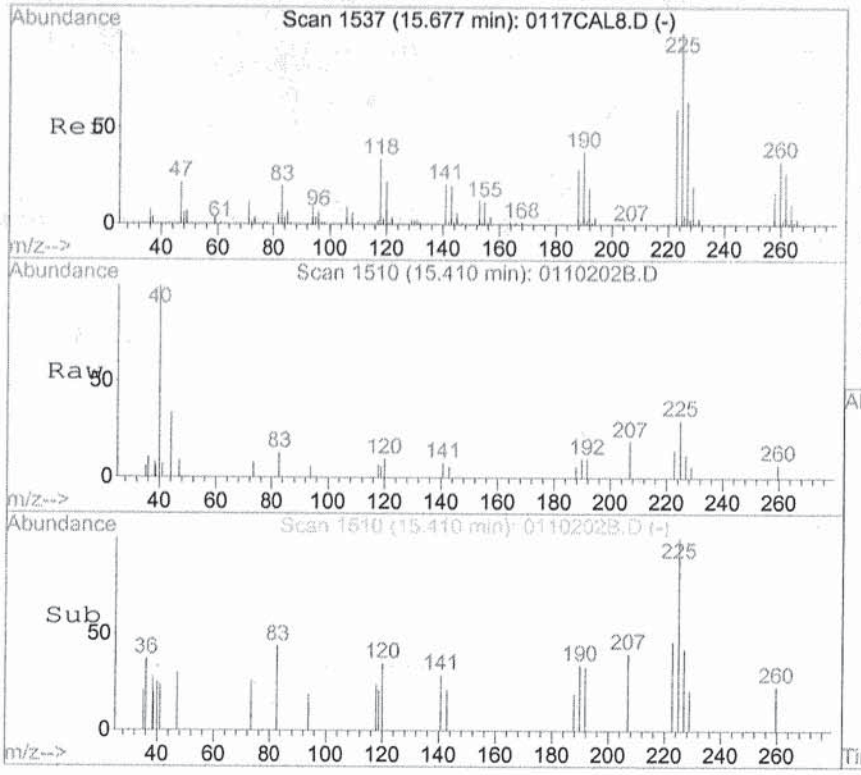


#97
p-Isopropyltoluene
Concen: 0.06 ug/L
RT: 13.07 min Scan# 1273
Delta R.T. -0.01 min
Lab File: 0110202B.D
Acq: 3 Feb 2015 3:19 pm

Tgt Ion:119 Resp: 1121

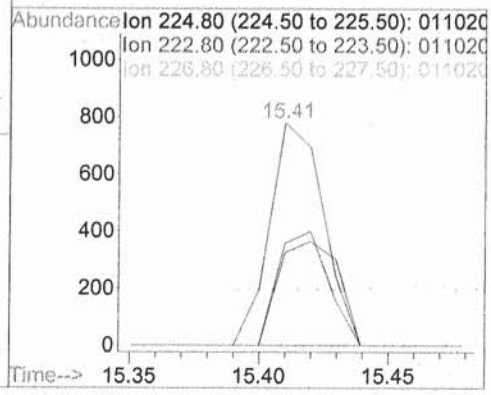
Ion	Ratio	Lower	Upper
119	100		
134	50.1	19.0	28.4#
91	87.3	23.1	34.7#





#104
Hexachlorobutadiene
Concen: 0.23 ug/L
RT: 15.41 min Scan# 1510
Delta R.T. -0.01 min
Lab File: 0110202B.D
Acq: 3 Feb 2015 3:19 pm

Tgt Ion:225	Resp:	1129	
Ion	Ratio	Lower	Upper
225	100		
223	47.8	49.3	73.9#
227	51.8	50.4	75.6



Data File : D:\DATA\020315V6\0110204B.D Vial: 14
Acq On : 3 Feb 2015 3:47 pm Operator:
Sample : 1501102-04 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:29 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.58	96	806869	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.69	82	348587	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.08	152	333742	30.00	ug/L	-0.01
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	324094	29.80	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 99.33%			
42) 1,2-Dichloroethane-d4	7.05	102	55770	29.23	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 97.43%			
61) Toluene-d8	9.27	98	757575	29.45	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 98.17%			
82) Bromofluorobenzene	11.89	95	331279	29.69	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 98.97%			
Target Compounds						Qvalue
75) m,p-Xylene	10.99	91	2547	0.1100	ug/L	93
77) o-Xylene	11.38	91	1819	0.0763	ug/L	98
97) p-Isopropyltoluene	13.07	119	1251	0.0632	ug/L #	8

02/09/15

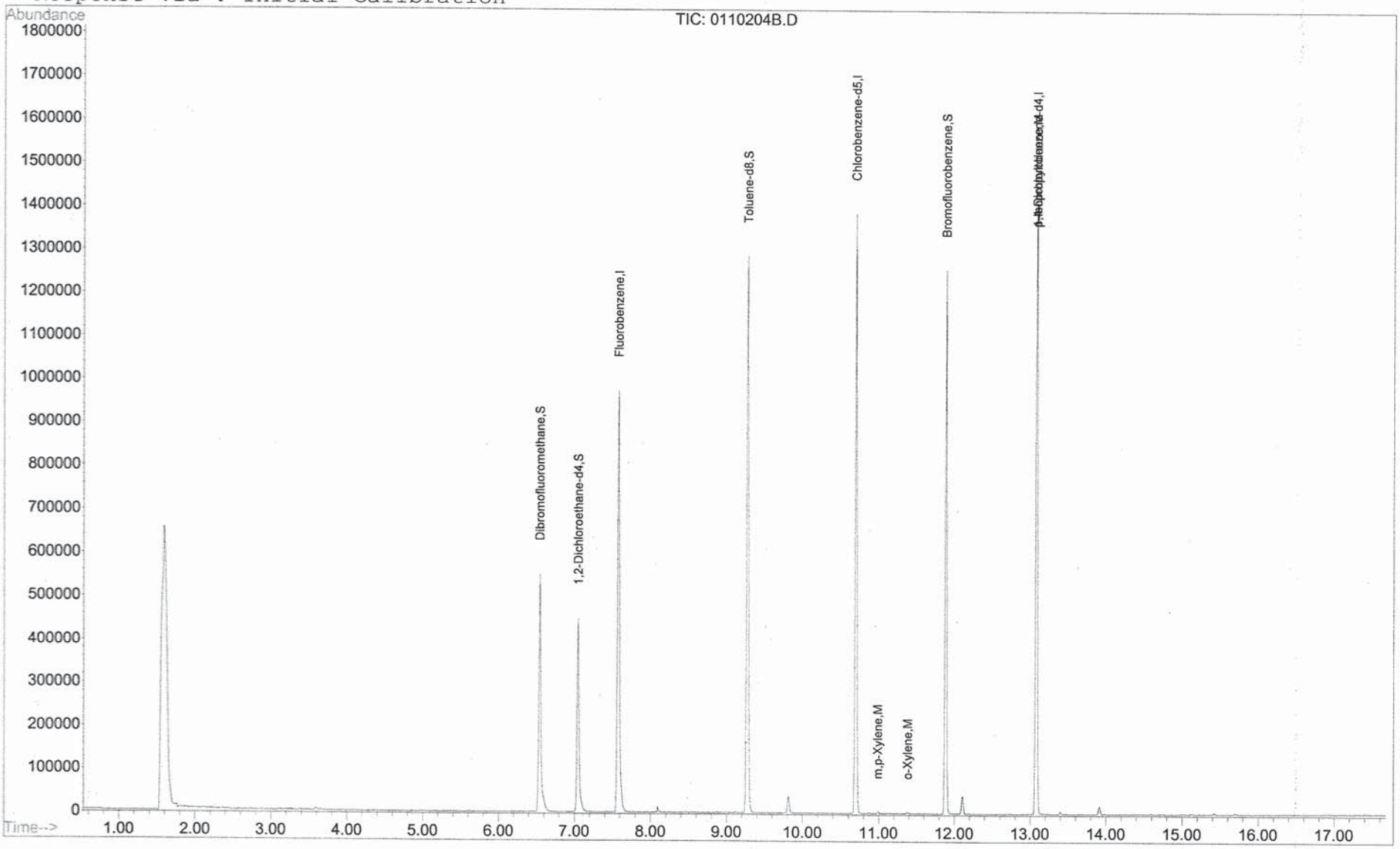
(#) = qualifier out of range (m) = manual integration
0110204B.D 020215W6.M Fri Feb 06 10:29:08 2015 Page 1

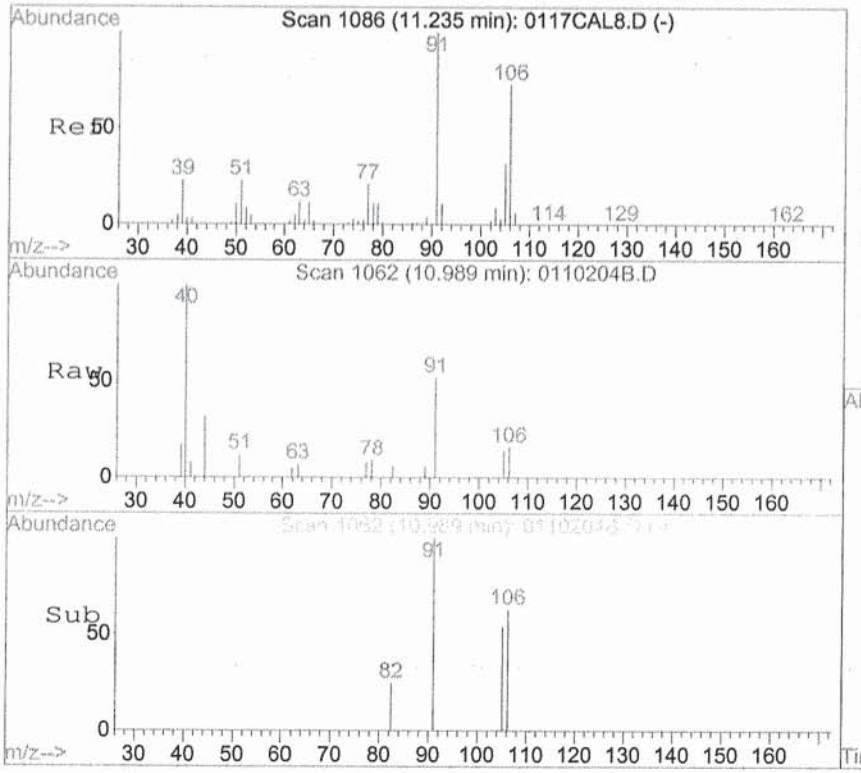
Data File : D:\DATA\020315V6\0110204B.D
Acq On : 3 Feb 2015 3:47 pm
Sample : 1501102-04
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:29 2015

Vial: 14
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration

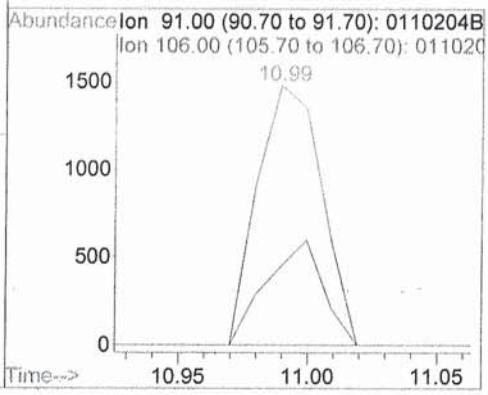


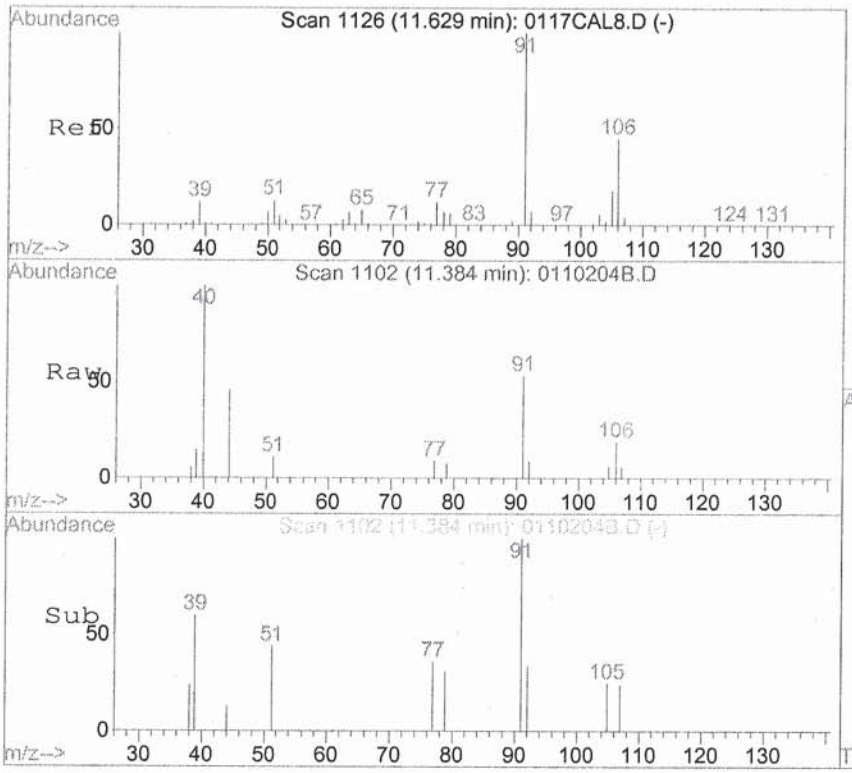


#75
m,p-Xylene
Concen: 0.11 ug/L
RT: 10.99 min Scan# 1062
Delta R.T. -0.01 min
Lab File: 0110204B.D
Acq: 3 Feb 2015 3:47 pm

Tgt Ion: 91 Resp: 2547

Ion	Ratio	Lower	Upper
91	100		
106	35.6	32.2	48.2

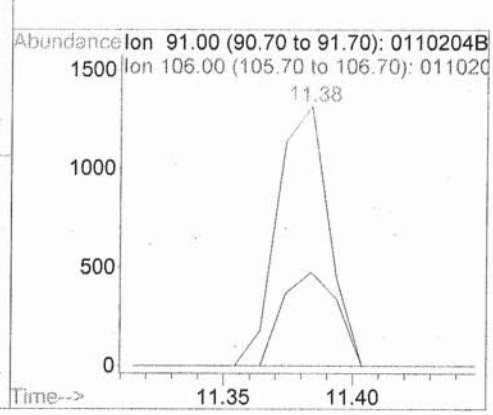


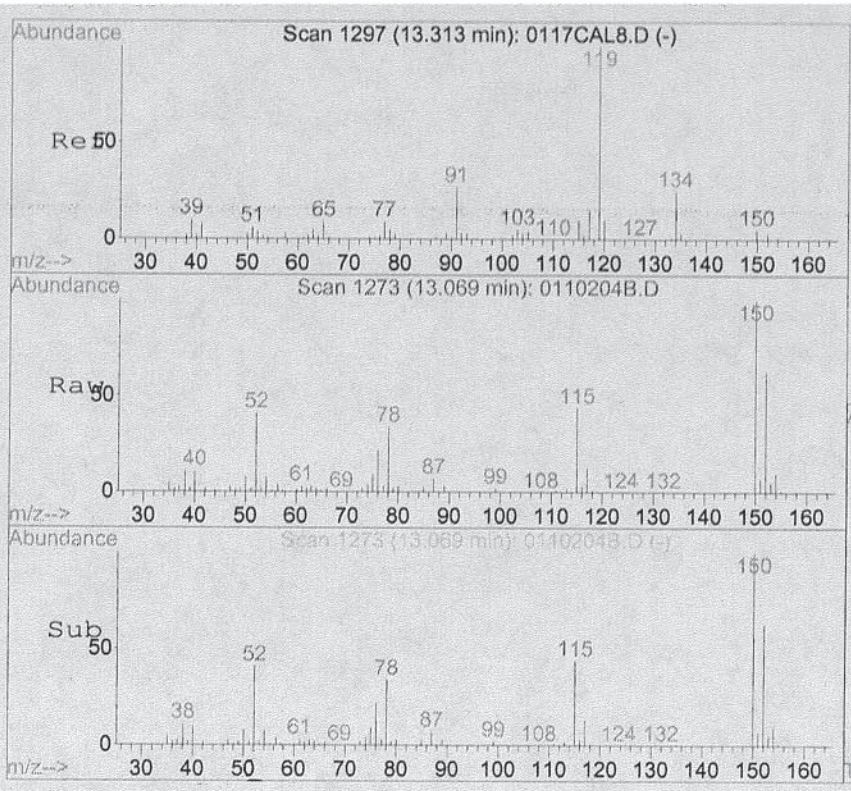


#77
o-Xylene
Concen: 0.08 ug/L
RT: 11.38 min Scan# 1102
Delta R.T. -0.00 min
Lab File: 0110204B.D
Acq: 3 Feb 2015 3:47 pm

Tgt Ion: 91 Resp: 1819

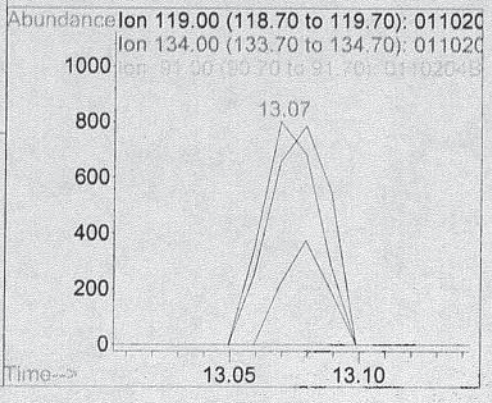
Ion	Ratio	Lower	Upper
91	100		
106	38.5	32.0	48.0





#97
p-Isopropyltoluene
Concen: 0.06 ug/L
RT: 13.07 min Scan# 1273
Delta R.T. -0.01 min
Lab File: 0110204B.D
Acq: 3 Feb 2015 3:47 pm

Tgt Ion:119	Resp:	1251	
Ion	Ratio	Lower	Upper
119	100		
134	37.1	19.0	28.4#
91	105.9	23.1	34.7#



Quantitation Report (QT Reviewed)

Data File : D:\DATA\020315V6\0110205B.D
Acq On : 3 Feb 2015 4:14 pm
Sample : 1501102-05
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:30 2015

Vial: 15
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

C 02/6/15

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.57	96	801246	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.70	82	348619	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.07	152	334035	30.00	ug/L	-0.02
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	322700	29.88	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery =	99.60%		
42) 1,2-Dichloroethane-d4	7.04	102	56746	29.95	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery =	99.83%		
61) Toluene-d8	9.27	98	757532	29.45	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery =	98.17%		
82) Bromofluorobenzene	11.88	95	326497	29.26	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery =	97.53%		
Target Compounds						Qvalue
35) Chloroform	6.37	83	1301	0.0796	ug/L #	81
46) Carbon tetrachloride	7.27	117	5276	0.5920	ug/L	95

02/09/15

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

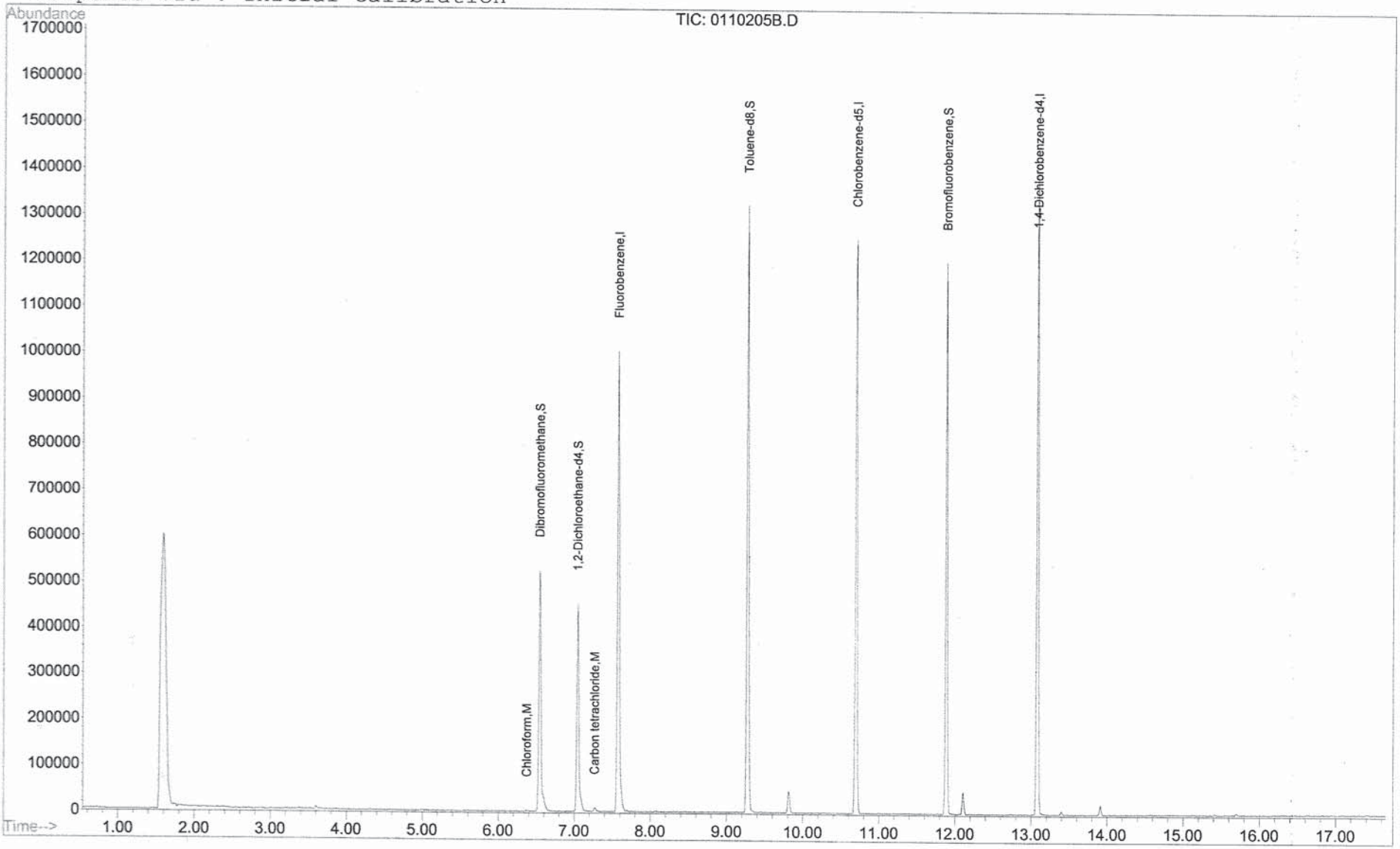
Quantitation Report

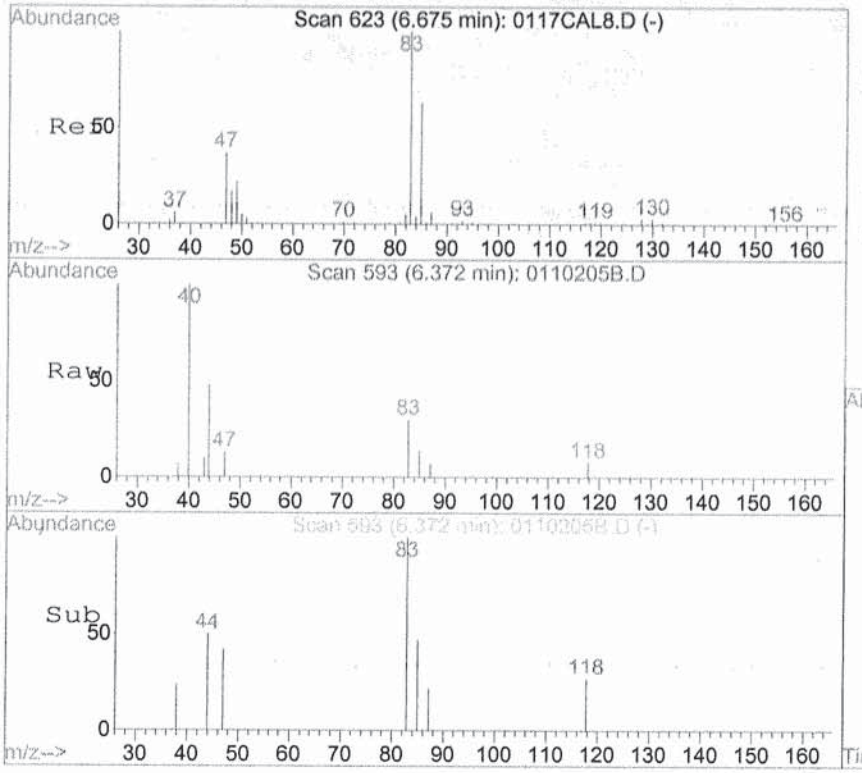
Data File : D:\DATA\020315V6\0110205B.D
Acq On : 3 Feb 2015 4:14 pm
Sample : 1501102-05
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:30 2015

Vial: 15
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration

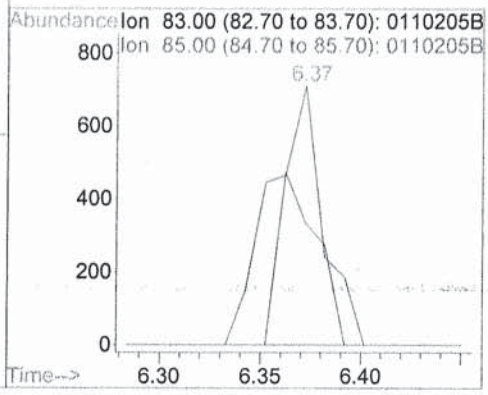


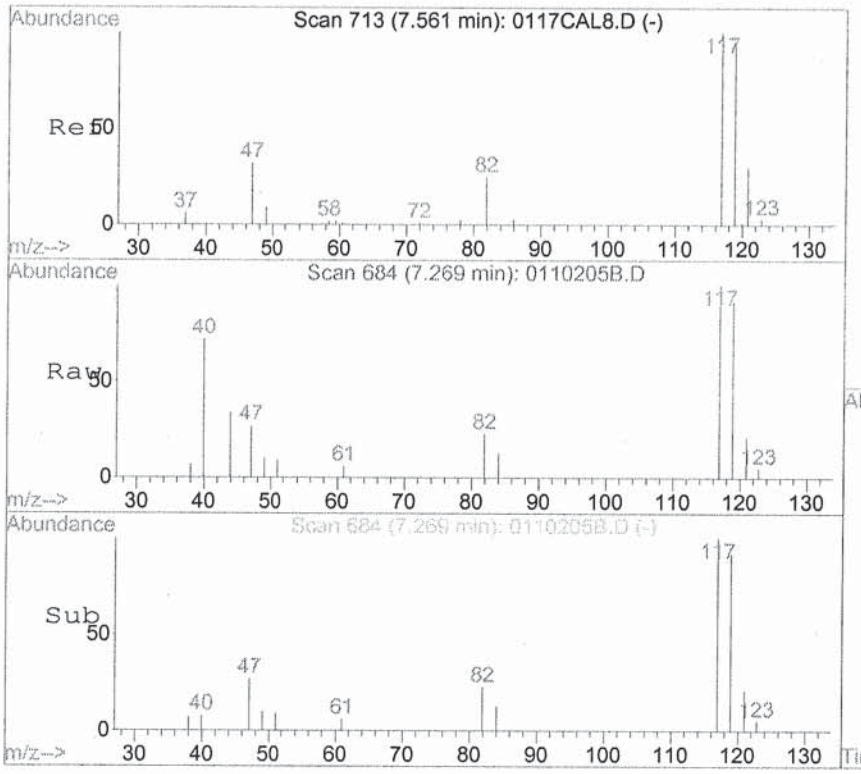


#35
Chloroform
Concen: 0.08 ug/L
RT: 6.37 min Scan# 593
Delta R.T. 0.00 min
Lab File: 0110205B.D
Acq: 3 Feb 2015 4:14 pm

Tgt Ion: 83 Resp: 1301

Ion	Ratio	Lower	Upper
83	100		
85	49.1	51.3	76.9#

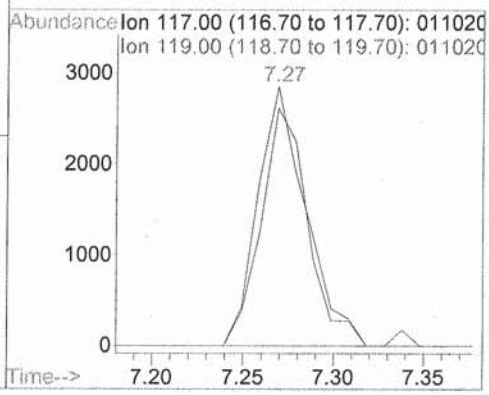




#46
Carbon tetrachloride
Concen: 0.59 ug/L
RT: 7.27 min Scan# 684
Delta R.T. -0.01 min
Lab File: 0110205B.D
Acq: 3 Feb 2015 4:14 pm

Tgt Ion:117 Resp: 5276

Ion	Ratio	Lower	Upper
117	100		
119	89.5	75.4	113.0



Quantitation Report (QT Reviewed)

Data File : D:\DATA\020315V6\0110206B.D Vial: 16
Acq On : 3 Feb 2015 4:42 pm Operator:
Sample : 1501102-06 2XF Inst : NSH-VOA6
Misc : 2 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:31 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.57	96	785551	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.69	82	342026	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.07	152	324917	30.00	ug/L	-0.01
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	322850	30.49	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 101.63%			
42) 1,2-Dichloroethane-d4	7.04	102	52750	28.40	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 94.67%			
61) Toluene-d8	9.27	98	731983	29.01	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 96.70%			
82) Bromofluorobenzene	11.88	95	320120	29.24	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 97.47%			
Target Compounds						Qvalue
9) Acetone	3.39	43	20427	9.2946	ug/L	97
19) Methylene chloride	4.31	84	2953	0.3392	ug/L	92
75) m,p-Xylene	10.99	91	3350	0.1474	ug/L #	71
77) o-Xylene	11.38	91	2608	0.1115	ug/L #	81

02/09/15

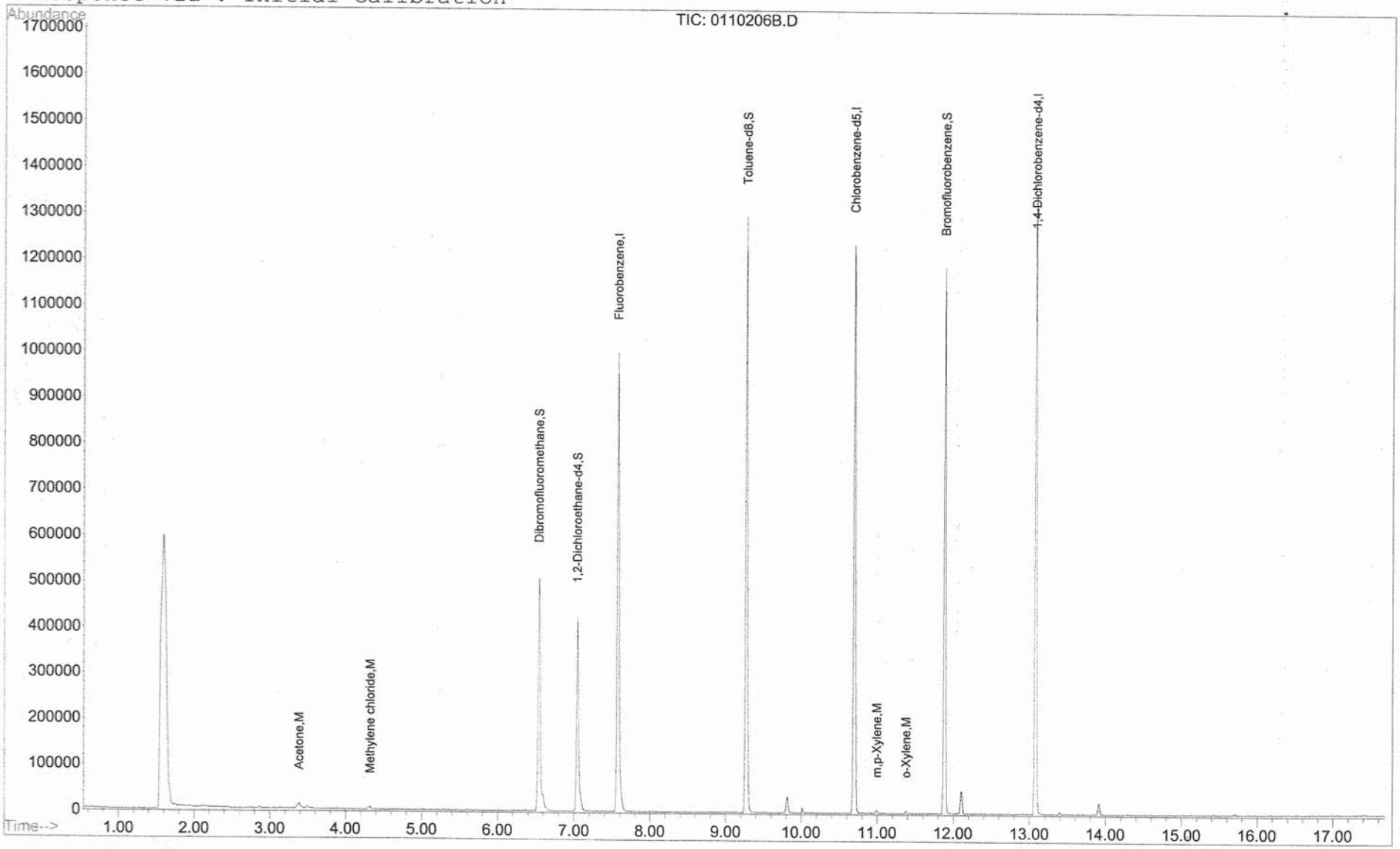
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0110206B.D 020215W6.M Fri Feb 06 10:31:46 2015 Page 1

Data File : D:\DATA\020315V6\0110206B.D
Acq On : 3 Feb 2015 4:42 pm
Sample : 1501102-06 2XF
Misc : 2
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:31 2015

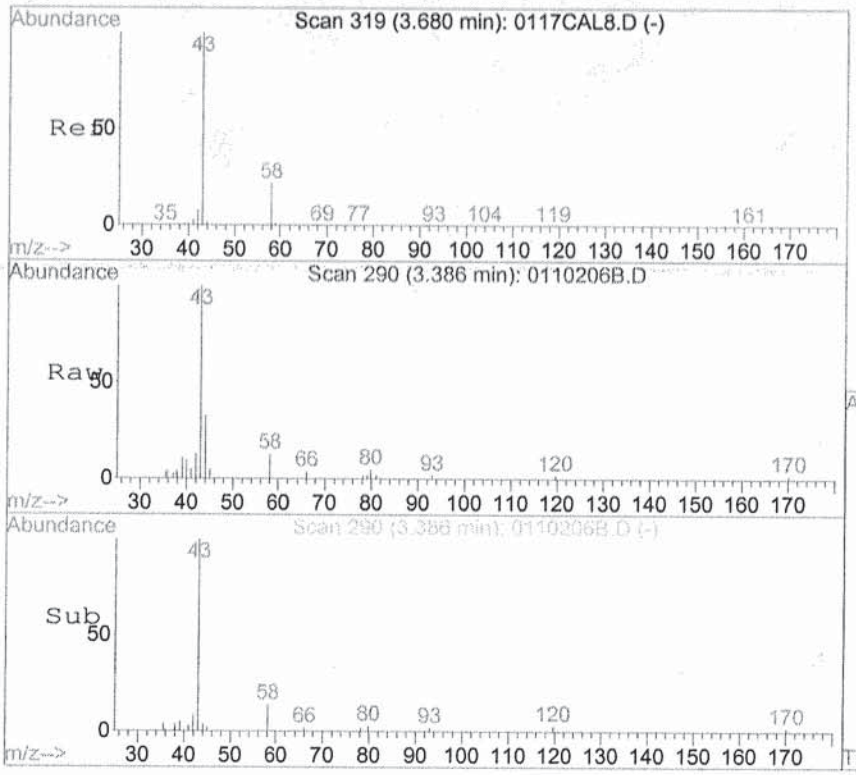
Vial: 16
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration



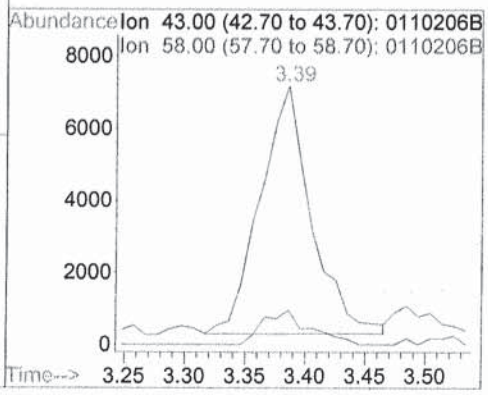
201
1501102

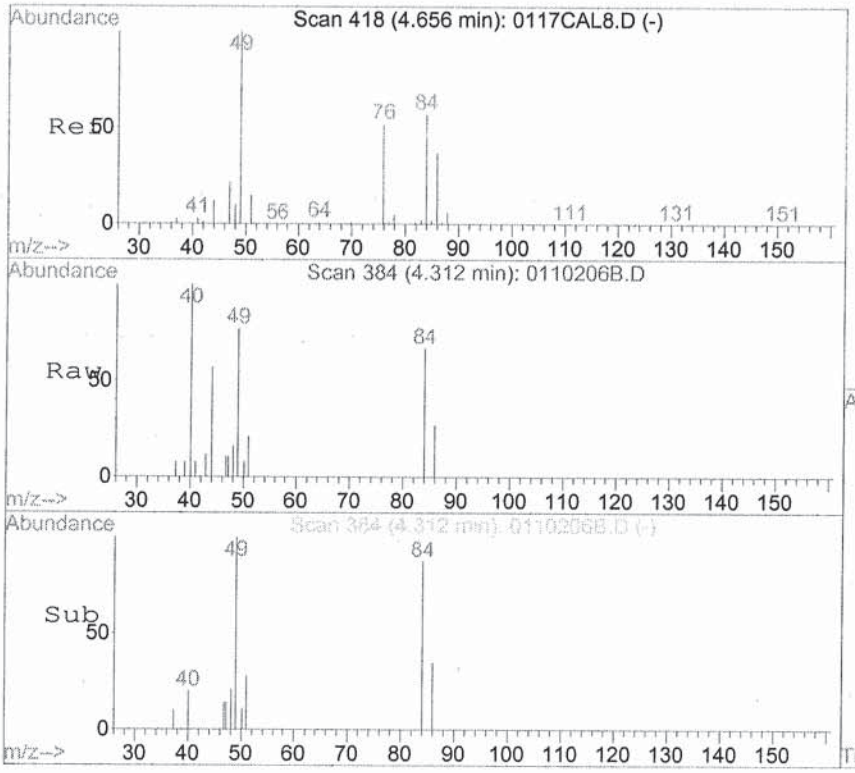


#9
Acetone
Concen: 9.29 ug/L
RT: 3.39 min Scan# 290
Delta R.T. 0.00 min
Lab File: 0110206B.D
Acq: 3 Feb 2015 4:42 pm

Tgt Ion: 43 Resp: 20427

Ion	Ratio	Lower	Upper
43	100		
58	12.4	11.0	16.4

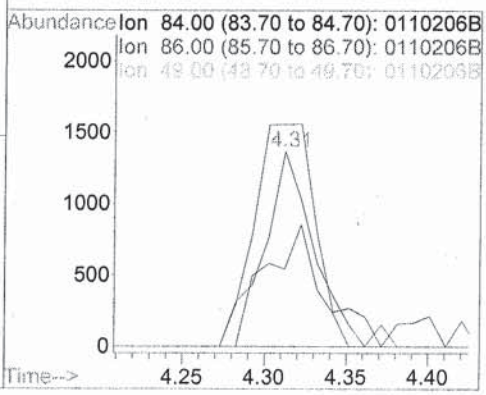


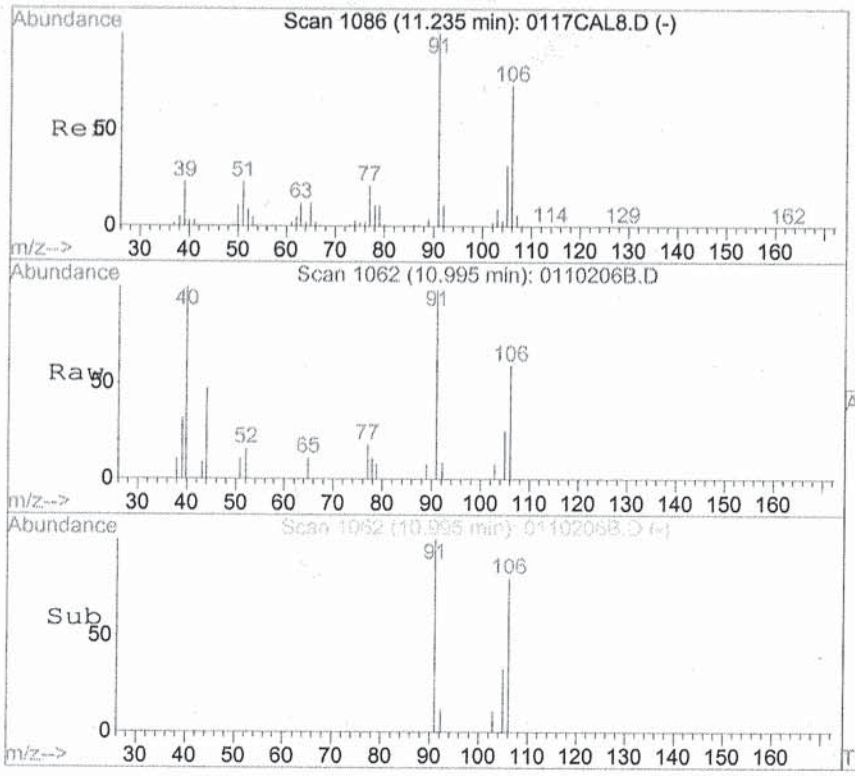


#19
Methylene chloride
Concen: 0.34 ug/L
RT: 4.31 min Scan# 384
Delta R.T. -0.01 min
Lab File: 0110206B.D
Acq: 3 Feb 2015 4:42 pm

Tgt Ion: 84 Resp: 2953

Ion	Ratio	Lower	Upper
84	100		
86	62.1	54.3	81.5
49	145.4	124.5	186.7

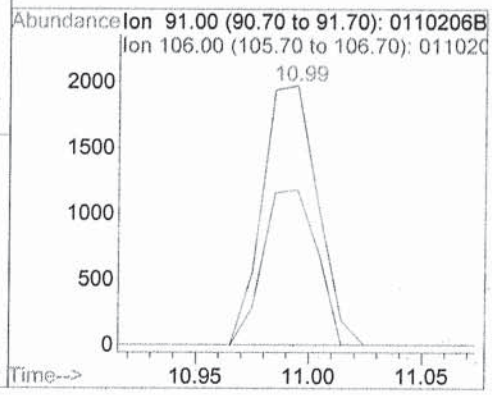


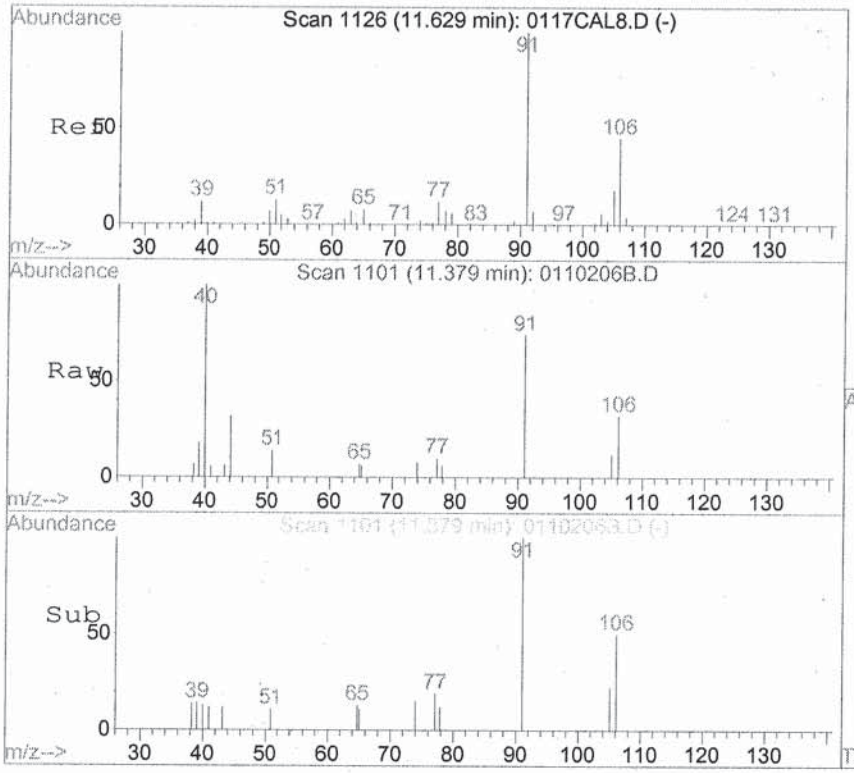


#75
m,p-Xylene
Concen: 0.15 ug/L
RT: 10.99 min Scan# 1062
Delta R.T. -0.01 min
Lab File: 0110206B.D
Acq: 3 Feb 2015 4:42 pm

Tgt Ion: 91 Resp: 3350

Ion	Ratio	Lower	Upper
91	100		
106	58.4	32.2	48.2#

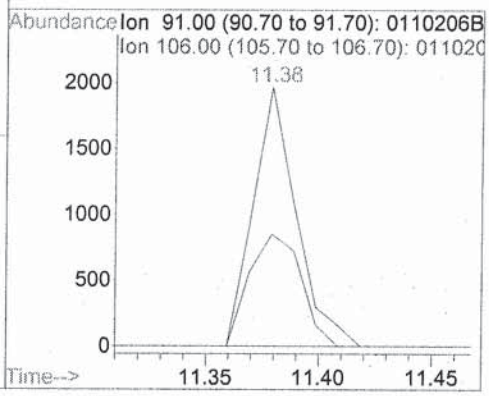




#77
o-Xylene
Concen: 0.11 ug/L
RT: 11.38 min Scan# 1101
Delta R.T. -0.01 min
Lab File: 0110206B.D
Acq: 3 Feb 2015 4:42 pm

Tgt Ion: 91 Resp: 2608

Ion	Ratio	Lower	Upper
91	100		
106	52.0	32.0	48.0#



Quantitation Report (QT Reviewed)

Data File : D:\DATA\020315V6\0110207B.D Vial: 17
Acq On : 3 Feb 2015 5:09 pm Operator:
Sample : 1501102-07 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:33 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.57	96	768440	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.69	82	330903	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.07	152	319327	30.00	ug/L	-0.02
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	310655	29.99	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 99.97%			
42) 1,2-Dichloroethane-d4	7.04	102	54118	29.78	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 99.27%			
61) Toluene-d8	9.27	98	720189	29.50	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 98.33%			
82) Bromofluorobenzene	11.88	95	314993	29.74	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 99.13%			
Target Compounds						Qvalue
49) Trichloroethene	8.08	95	11895	1.4199	ug/L	96

$TCE = \frac{11895}{768440} \times \frac{30}{0.32706}$

02/09/15

$= 1.4199$ J

(#) = qualifier out of range (m) = manual integration
0110207B.D 020215W6.M Fri Feb 06 10:33:16 2015 Page 1

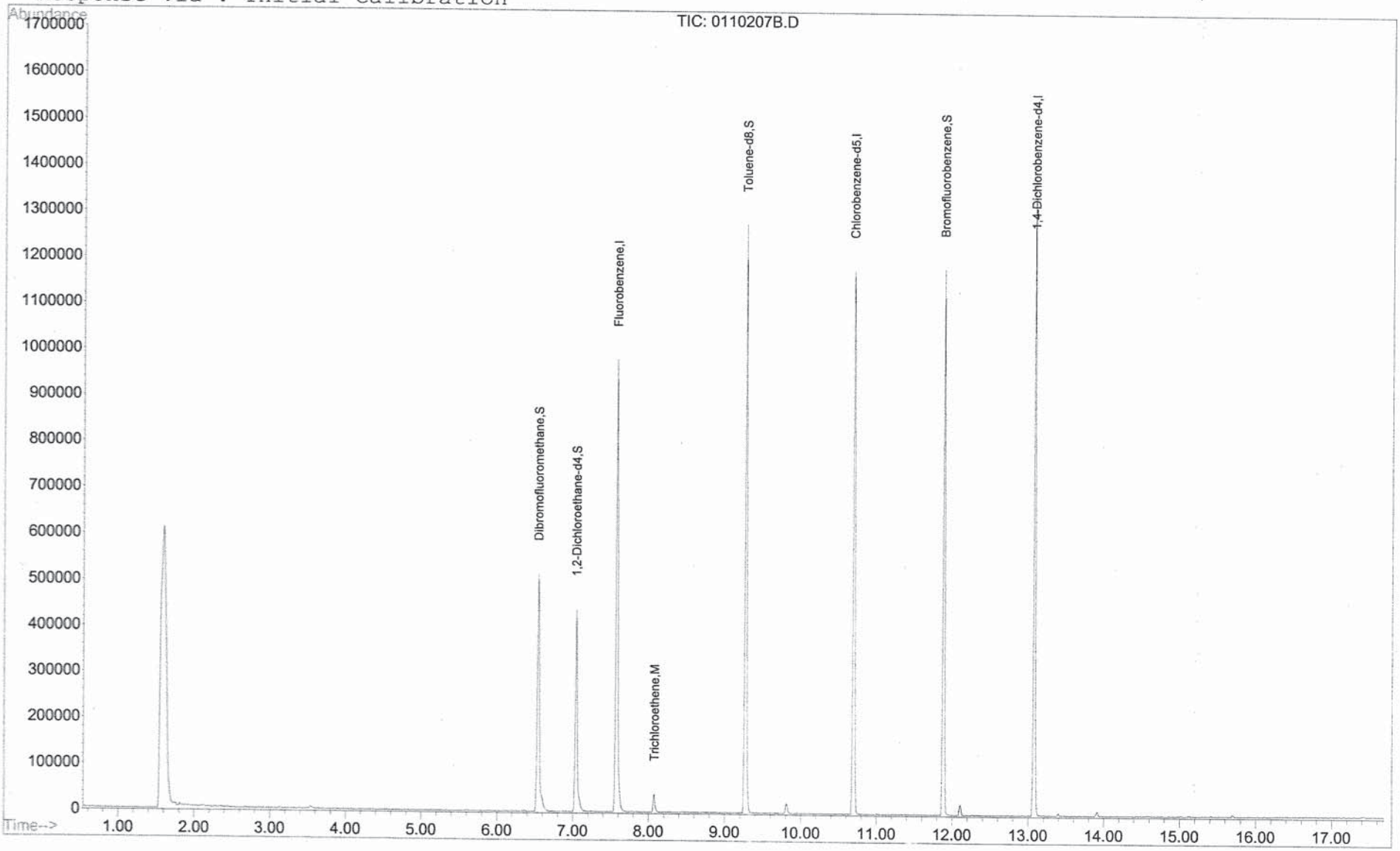
Quantitation Report

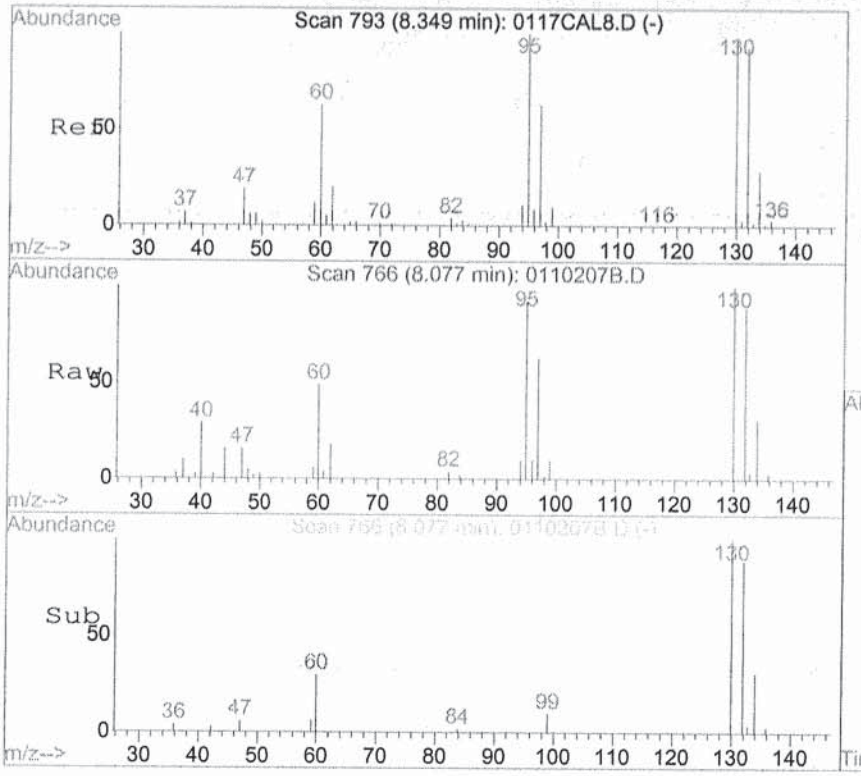
Data File : D:\DATA\020315V6\0110207B.D
Acq On : 3 Feb 2015 5:09 pm
Sample : 1501102-07
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:33 2015

Vial: 17
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration

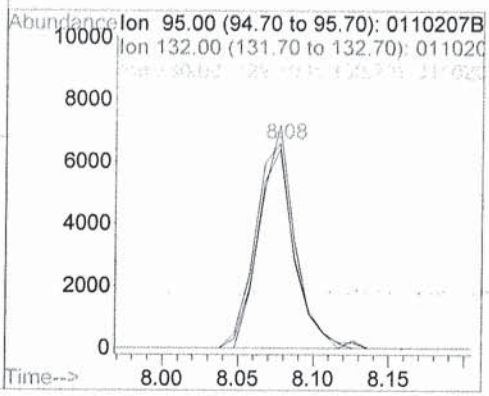




#49
Trichloroethene
Concen: 1.42 ug/L
RT: 8.08 min Scan# 766
Delta R.T. 0.00 min
Lab File: 0110207B.D
Acq: 3 Feb 2015 5:09 pm

Tgt Ion: 95 Resp: 11895

Ion	Ratio	Lower	Upper
95	100		
132	91.7	78.6	118.0
130	98.0	79.6	119.4



PREPARATION BENCH SHEET

5B03424

Empirical Laboratories, LLC

Printed: 2/9/2015 2:19:01PM

Instrument: VOA6

Matrix: Water **Prepared using: MS - 5030B** **Surrogate used: 14J0018**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID		ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
1501053-09RE1	A	VOC_8260C_REG_Q5	02/03/2015	5	5					1		5°C, QSM5.0, Lot#N0115;RR 2X as well for OLR-ADM-2/3;Ampules
1501053-09RE1	A	VOC_8260B_REG	02/03/2015	5	5					1		5°C, QSM5.0, Lot#N0115;RR 2X as well for OLR-ADM-2/3;Ampules
1501102-01	B	VOC_8260B_REG	02/03/2015	5	5					1	2	;;
1501102-02	B	VOC_8260B_REG	02/03/2015	5	5					1	2	;;
1501102-03	A	VOC_8260B_REG	02/03/2015	5	5					1	2	;;TB
1501102-04	B	VOC_8260B_REG	02/03/2015	5	5					1	2	;;
1501102-05	B	VOC_8260B_REG	02/03/2015	5	5					1	2	;;
1501102-06	B	VOC_8260B_REG	02/03/2015	5	5					1	2	;;2XF
1501102-07	B	VOC_8260B_REG	02/03/2015	5	5					1	2	;;
5B03424-BLK1		QC	02/03/2015	5	5					1	NA	
5B03424-BS1		QC	02/03/2015	5	5	15B0002			2.5	1	NA	
5B03424-BSD1		QC	02/03/2015	5	5	15B0002			2.5	1	NA	
5B03424-MRL1		QC	02/03/2015	5	5	15B0002			0.25	1	NA	
5B03424-MRL2		QC	02/03/2015	5	5	15B0002			0.25	1	NA	
5B03424-MRL3		QC	02/03/2015	5	5	15B0002			0.25	1	NA	
5B03424-MRL4		QC	02/03/2015	5	5	15B0002			0.25	1	NA	

PREPARATION BENCH SHEET

5B03424

Empirical Laboratories, LLC

Printed: 2/9/2015 2:19:01PM

Instrument: VOA6

Matrix: Water **Prepared using: MS - 5030B** **Surrogate used: 14J0018**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)

Reagents Used:

Standard	Description
14F0692	Anti-foam-GE_AF72
15A0032	ph paper 1-12

Data for RSK 175
Forms

Sample Extraction Data

Prep Method: RSK175-RSK175

Lab Number [Field ID]	Batch	Nominal Initial/Final	Initial [mL]	Final [mL]	Dilution	% Solids	Notes	Date
1501102-01 [13MW3]	5B04002	15.00/15.00	15.0	15.0	1.00			02/04/15
1501102-02 [49MW04]	5B04002	15.00/15.00	15.0	15.0	1.00			02/04/15
1501102-04 [13MW2]	5B04002	15.00/15.00	15.0	15.0	1.00			02/04/15
1501102-05 [13MW4]	5B04002	15.00/15.00	15.0	15.0	1.00			02/04/15

ANALYSIS DATA SHEET

13MW3

Laboratory: Empirical Laboratories, LLC SDG: 1501102

Client: CB&I Project: Radford AAP

Matrix: Water Laboratory ID: 1501102-01 File ID: 005F0501.D\Report.TXT

Sampled: 01/26/15 09:25 Prepared: 02/04/15 07:09 Analyzed: 02/04/15 12:28

Solids: Preparation: RSK175 Dilution: 1

Batch: 5B04002 Sequence: 5B03704 Calibration: 4335002 Instrument: GL-GCVOA

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane		1.00	2.00	4.00	U
74-84-0	Ethane		1.00	2.00	4.00	U
74-85-1	Ethene		1.00	2.00	4.00	U

Total Target Analytes Reported 3 Project Analytes: 3

ANALYSIS DATA SHEET

49MW04

Laboratory: Empirical Laboratories, LLC SDG: 1501102

Client: CB&I Project: Radford AAP

Matrix: Water Laboratory ID: 1501102-02 File ID: 006F0601.D\Report.TXT

Sampled: 01/26/15 09:35 Prepared: 02/04/15 07:09 Analyzed: 02/04/15 12:41

Solids: Preparation: RSK175 Dilution: 1

Batch: 5B04002 Sequence: 5B03704 Calibration: 4335002 Instrument: GL-GCVOA

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane		1.00	2.00	4.00	U
74-84-0	Ethane		1.00	2.00	4.00	U
74-85-1	Ethene		1.00	2.00	4.00	U

Total Target Analytes Reported 3 Project Analytes: 3

ANALYSIS DATA SHEET

13MW2

Laboratory:	Empirical Laboratories, LLC			SDG:	1501102
Client:	CB&I			Project:	Radford AAP
Matrix:	Water	Laboratory ID:	1501102-04	File ID:	007F0701.D\Report.TXT
Sampled:	01/26/15 11:10	Prepared:	02/04/15 07:09	Analyzed:	02/04/15 12:55
Solids:		Preparation:	RSK175	Dilution:	1
Batch:	5B04002	Sequence:	5B03704	Calibration:	4335002
Instrument:	GL-GCVOA				

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane		1.00	2.00	4.00	U
74-84-0	Ethane		1.00	2.00	4.00	U
74-85-1	Ethene		1.00	2.00	4.00	U

Total Target Analytes Reported 3 Project Analytes: 3

ANALYSIS DATA SHEET

13MW4

Laboratory:	Empirical Laboratories, LLC			SDG:	1501102
Client:	CB&I			Project:	Radford AAP
Matrix:	Water	Laboratory ID:	1501102-05	File ID:	008F0801.D\Report.TXT
Sampled:	01/26/15 11:20	Prepared:	02/04/15 07:09	Analyzed:	02/04/15 13:09
Solids:		Preparation:	RSK175	Dilution:	1
Batch:	5B04002	Sequence:	5B03704	Calibration:	4335002
Instrument:	GL-GCVOA				

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane		1.00	2.00	4.00	U
74-84-0	Ethane		1.00	2.00	4.00	U
74-85-1	Ethene		1.00	2.00	4.00	U

Total Target Analytes Reported 3 Project Analytes: 3

LCS / LCS DUPLICATE RECOVERY

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501102
Client:	CB&I	Project:	Radford AAP
Matrix:	Water		
Batch:	5B04002	Laboratory ID:	5B04002-BS1
Preparation:	RSK175	Initial/Final:	15 mL / 15 mL

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	QC LIMITS REC.
Methane	253.4	257.4	102	80 - 120
Ethane	485.3	495.3	102	80 - 120
Ethene	520.6	567.0	109	80 - 120

PREPARATION BATCH SUMMARY

RSK175

Laboratory: Empirical Laboratories, LLC SDG: 1501102

Client: CB&I Project: Radford AAP

Batch: 5B04002 Batch Matrix: Water Preparation: RSK175

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
13MW3	1501102-01	02/04/15 07:09	15.00	15.00
49MW04	1501102-02	02/04/15 07:09	15.00	15.00
13MW2	1501102-04	02/04/15 07:09	15.00	15.00
13MW4	1501102-05	02/04/15 07:09	15.00	15.00
Blank	5B04002-BLK1	02/04/15 07:09	15.00	15.00
LCS	5B04002-BS1	02/04/15 07:09	15.00	15.00

ANALYSIS DATA SHEET

Blank

Laboratory: Empirical Laboratories, LLC SDG: 1501102

Client: CB&I Project: Radford AAP

Matrix: Laboratory ID: 5B04002-BLK1 File ID: 003F0301.D\Report.TXT

Sampled: Prepared: Analyzed: 02/04/15 12:01

Solids: Preparation: RSK175 Dilution:

Batch: 5B04002 Sequence: 5B03704 Calibration: 4335002 Instrument: GL-GCVOA

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane		1.00	2.00	4.00	U
74-84-0	Ethane		1.00	2.00	4.00	U
74-85-1	Ethene		1.00	2.00	4.00	U

Total Target Analytes Reported: 3

ANALYSIS DATA SHEET

LCS

Laboratory: Empirical Laboratories, LLC SDG: 1501102

Client: CB&I Project: Radford AAP

Matrix: Laboratory ID: 5B04002-BS1 File ID: 004F0401.D\Report.TXT

Sampled: Prepared: Analyzed: 02/04/15 12:14

Solids: Preparation: RSK175 Dilution:

Batch: 5B04002 Sequence: 5B03704 Calibration: 4335002 Instrument: GL-GCVOA

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane	**257.4**	1.00	2.00	4.00	
74-84-0	Ethane	**495.3**	1.00	2.00	4.00	
74-85-1	Ethene	**567.0**	1.00	2.00	4.00	

Total Target Analytes Reported: 3

INITIAL CALIBRATION STANDARDS

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501102
Client:	CB&I	Project:	Radford AAP
Sequence:	4L33506	Instrument:	GL-GCVOA
Calibration:	4335002		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
14K0664	MEE CAL1 STD@0.005 ON COLUMN	4L33506-CAL1	002F0201.D\Report.TXT	11/30/14 22:55
14K0665	MEE CAL2 STD@0.01 ON COLUMN	4L33506-CAL2	003F0301.D\Report.TXT	11/30/14 23:09
14K0666	MEE CAL3 STD@0.02 ON COLUMN	4L33506-CAL3	004F0401.D\Report.TXT	11/30/14 23:22
14K0667	MEE CAL4 STD@0.1 ON COLUMN	4L33506-CAL4	005F0501.D\Report.TXT	11/30/14 23:36
14K0668	MEE CAL5 STD@0.2 ON COLUMN	4L33506-CAL5	006F0601.D\Report.TXT	11/30/14 23:49
14K0669	MEE CAL6 STD@1.0 ON COLUMN	4L33506-CAL6	007F0701.D\Report.TXT	12/01/14 00:03
14K0670	MEE CAL7 STD@2.0 ON COLUMN	4L33506-CAL7	008F0801.D\Report.TXT	12/01/14 00:17
14K0671	MEE CAL8 STD@4.0 ON COLUMN	4L33506-CAL8	009F0901.D\Report.TXT	12/01/14 00:30

ANALYSIS SEQUENCE SUMMARY

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501102
Client:	CB&I	Project:	Radford AAP
Sequence:	4L33506	Instrument:	GL-GCVOA
Calibration:	4335002		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	4L33506-CAL1	002F0201.D\Report.TXT	11/30/14 22:55
Cal Standard	4L33506-CAL2	003F0301.D\Report.TXT	11/30/14 23:09
Cal Standard	4L33506-CAL3	004F0401.D\Report.TXT	11/30/14 23:22
Cal Standard	4L33506-CAL4	005F0501.D\Report.TXT	11/30/14 23:36
Cal Standard	4L33506-CAL5	006F0601.D\Report.TXT	11/30/14 23:49
Cal Standard	4L33506-CAL6	007F0701.D\Report.TXT	12/01/14 00:03
Cal Standard	4L33506-CAL7	008F0801.D\Report.TXT	12/01/14 00:17
Cal Standard	4L33506-CAL8	009F0901.D\Report.TXT	12/01/14 00:30
Initial Cal Check	4L33506-ICV1	010F1001.D\Report.TXT	12/01/14 00:44

ANALYSIS SEQUENCE SUMMARY

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501102
Client:	CB&I	Project:	Radford AAP
Sequence:	5B03704	Instrument:	GL-GCVOA
Calibration:	4335002		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	5B03704-CCV1	002F0201.D\Report.TXT	02/04/15 11:47
Blank	5B04002-BLK1	003F0301.D\Report.TXT	02/04/15 12:01
LCS	5B04002-BS1	004F0401.D\Report.TXT	02/04/15 12:14
13MW3	1501102-01	005F0501.D\Report.TXT	02/04/15 12:28
49MW04	1501102-02	006F0601.D\Report.TXT	02/04/15 12:41
13MW2	1501102-04	007F0701.D\Report.TXT	02/04/15 12:55
13MW4	1501102-05	008F0801.D\Report.TXT	02/04/15 13:09
Calibration Check	5B03704-CCV2	017F1701.D\Report.TXT	02/04/15 15:11

INITIAL CALIBRATION DATA

RSK175

Laboratory: Empirical Laboratories, LLC
SDG: 1501102
Client: CB&I
Project: Radford AAP
Calibration: 4335002
Instrument: GL-GCVOA
Matrix: Water
Calibration Dates: 11/30/14 22:55 12/1/14 0:30

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	DE*1000	RF	DE*1000	RF	DE*1000	RF	DE*1000	RF	DE*1000	RF	DE*1000	RF
Methane	0.005	~~820080.2~~	0.01	700057.9	0.02	520560	0.1	462402	0.2	447276.5	1	422586
Ethane	0.005	636984.8	0.01	567037.7	0.02	535110	0.1	583987	0.2	578530	1	582713
Ethene	0.005	526654.2	0.01	472928	0.02	494285.5	0.1	583965	0.2	596060	1	586832
Acetylene (outside certification)	0.005		0.01		0.02		0.1		0.2		1	

INITIAL CALIBRATION DATA (Continued)

RSK175

Laboratory: Empirical Laboratories, LLC
SDG: 1501102
Client: CB&I
Project: Radford AAP
Calibration: 4335002
Instrument: GL-GCVOA
Matrix: Water
Calibration Dates: 11/30/14 22:55 12/1/14 0:30

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	DE*1000	RF	DE*1000	RF	DE*1000	RF	DE*1000	RF	DE*1000	RF	DE*1000	RF
Methane	2	354606.5	4	302757.5								
Ethane	2	495891.5	4	423852.5								
Ethene	2	499674	4	424570								
Acetylene (outside certification)	2		4									

INITIAL CALIBRATION DATA (Continued)

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501102
Client:	CB&I	Project:	Radford AAP
Calibration:	4335002	Instrument:	GL-GCVOA
Matrix:	Water	Calibration Dates:	11/30/14 22:55 12/1/14 0:30

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Methane	458606.6	27.96427	0.8102857	0.9003783		0.9991859	0.99	
Ethane	550513.3	11.88305	6.731875	0.2221914			20	
Ethene	523121.1	11.80749	5.9265	0.2719457			20	
Acetylene (outside certification)							20	

Per current DoD QSM requirements, effective 03/17/2014, Empirical has updated the linear calibration coefficient requirements to reflect a limit of 0.990 for "r2" rather than the previously reported limit of 0.995 for "r". The change in assessment criteria is consistent with regulatory requirements.

INITIAL CALIBRATION CHECK

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501102
Client:	CB&I	Project:	Radford AAP
Instrument ID:	GL-GCVOA	Calibration:	4335002
Lab File ID:	010F1001.D\Report.TXT	Calibration Date:	11/30/14 10:55
Sequence:	4L33506	Injection Date:	12/01/14
Lab Sample ID:	4L33506-ICV1	Injection Time:	00:44

		CONC. (DE*1000)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Methane	Q	1.000	0.9059	458607	363070		-9.4	20
Ethane	A	1.000	0.9203	550513	506658		-7.966	20
Ethene	A	1.000	0.9708	523121	507854		-2.918	20

CONTINUING CALIBRATION CHECK

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501102
Client:	CB&I	Project:	Radford AAP
Instrument ID:	GL-GCVOA	Calibration:	4335002
Lab File ID:	002F0201.D\Report.TXT	Calibration Date:	11/30/14 10:55
Sequence:	5B03704	Injection Date:	02/04/15
Lab Sample ID:	5B03704-CCV1	Injection Time:	11:47

		CONC. (DE*1000)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	Q	1.000	1.068	458607	421863		6.8	20
Ethane	A	1.000	1.078	550513	593307		7.773	20
Ethene	A	1.000	1.197	523121	625981		19.66	20

CONTINUING CALIBRATION CHECK

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501102
Client:	CB&I	Project:	Radford AAP
Instrument ID:	GL-GCVOA	Calibration:	4335002
Lab File ID:	017F1701.D\Report.TXT	Calibration Date:	11/30/14 10:55
Sequence:	5B03704	Injection Date:	02/04/15
Lab Sample ID:	5B03704-CCV2	Injection Time:	15:11

		CONC. (DE*1000)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	Q	1.000	0.9911	458607	394075		-0.9	20
Ethane	A	1.000	1.010	550513	555950		0.9876	20
Ethene	A	1.000	1.085	523121	567743		8.53	20

HOLDING TIME SUMMARY

RSK175

Laboratory: Empirical Laboratories, LLC SDG: 1501102

Client: CB&I Project: Radford AAP

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
13MW3	01/26/15 09:25	01/27/15 08:45	02/04/15 07:09	N/A	14.00	02/04/15 12:28	9.17	14.00	
49MW04	01/26/15 09:35	01/27/15 08:45	02/04/15 07:09	N/A	14.00	02/04/15 12:41	9.17	14.00	
13MW2	01/26/15 11:10	01/27/15 08:45	02/04/15 07:09	N/A	14.00	02/04/15 12:55	9.11	14.00	
13MW4	01/26/15 11:20	01/27/15 08:45	02/04/15 07:09	N/A	14.00	02/04/15 13:09	9.12	14.00	

Data for RSK 175
Supporting Raw Data / Logs

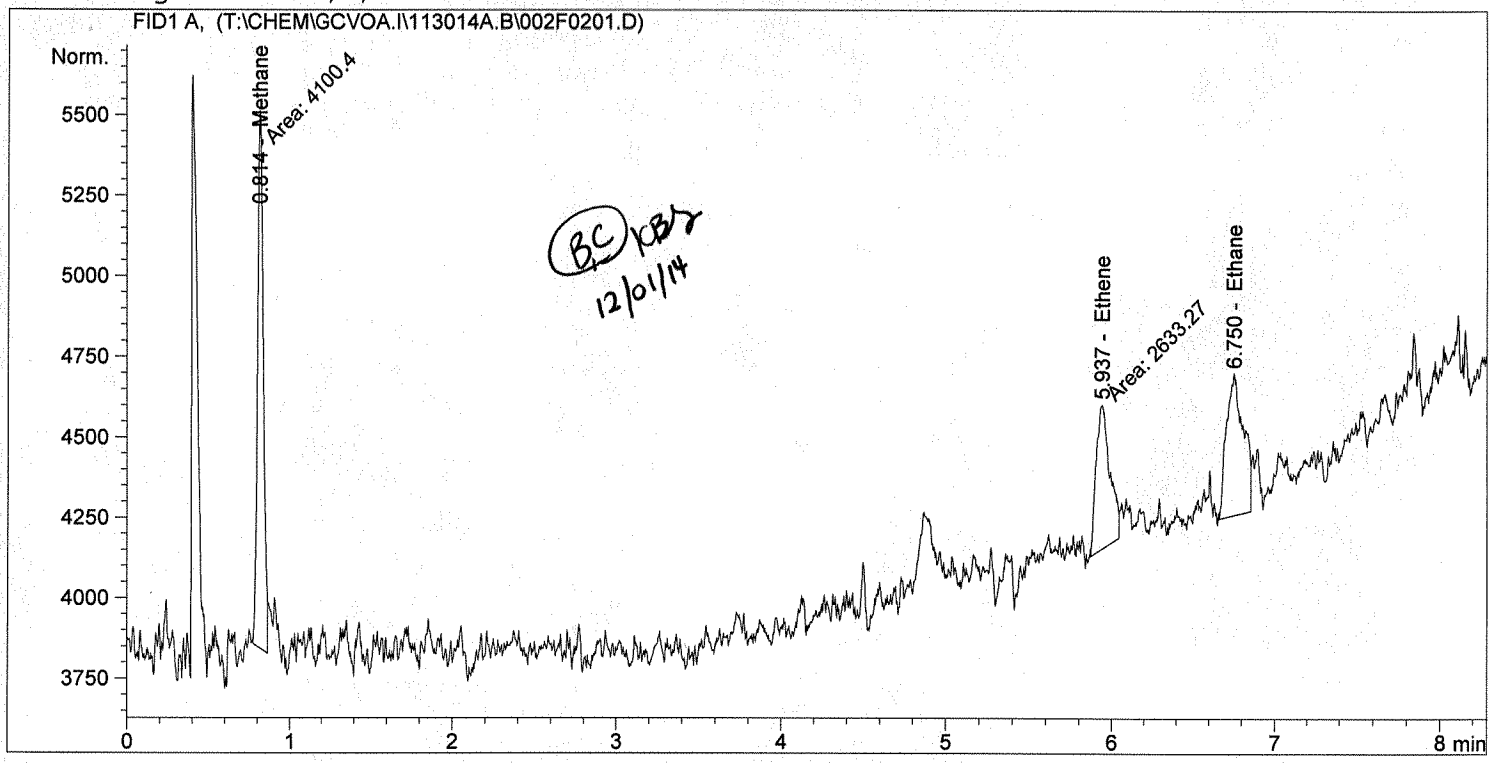
Partial Sequence: C:\HPCHEM\1\SEQUENCE\113014A.S \GCnoA\FID\MEE

PG 834

Sel	Run	Location	Method	Datafile	SeqTable	Calib:RF:RT	Sample Name
No	1	Vial 1	MEE-FAST	001F0101		F:01:01	Int Blk
No	2	Vial 2	MEE-FAST	002F0201		F:02:01	SEQ-CAL1 ID#14K0664
No	3	Vial 3	MEE-FAST	003F0301		F:03:01	SEQ-CAL2 665
No	4	Vial 4	MEE-FAST	004F0401		F:04:01	SEQ-CAL3 666
No	5	Vial 5	MEE-FAST	005F0501		F:05:01	SEQ-CAL4 667
No	6	Vial 6	MEE-FAST	006F0601		F:06:01	SEQ-CAL5 668
No	7	Vial 7	MEE-FAST	007F0701		F:07:01	SEQ-CAL6 669
No	8	Vial 8	MEE-FAST	008F0801		F:08:01	SEQ-CAL7 670
No	9	Vial 9	MEE-FAST	009F0901		F:09:01	SEQ-CAL8 671
No	10	Vial 10	MEE-FAST	010F1001		F:10:01	SEQ-ICV1 672

Data File T:\CHEM\GCVOA.I\113014A.B\002F0201.D
Sample Name: SEQ-CAL1

```
==========================================================================
Acq. Operator    :                                  Seq. Line :   2
Acq. Instrument  : GCVOA                             Location : Vial 2
Injection Date   : 11/30/2014 10:55:40 PM                Inj :   1
                                                  Inj Volume : Manually
Acq. Method      : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed     : 9/8/2011 1:56:36 PM by RDW
Analysis Method  : T:\CHEM\GCVOA.I\112614.B\113014MEE.M
Last changed     : 12/1/2014 12:02:47 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      12/1/2014 11:57:38 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs
```

12/02/14

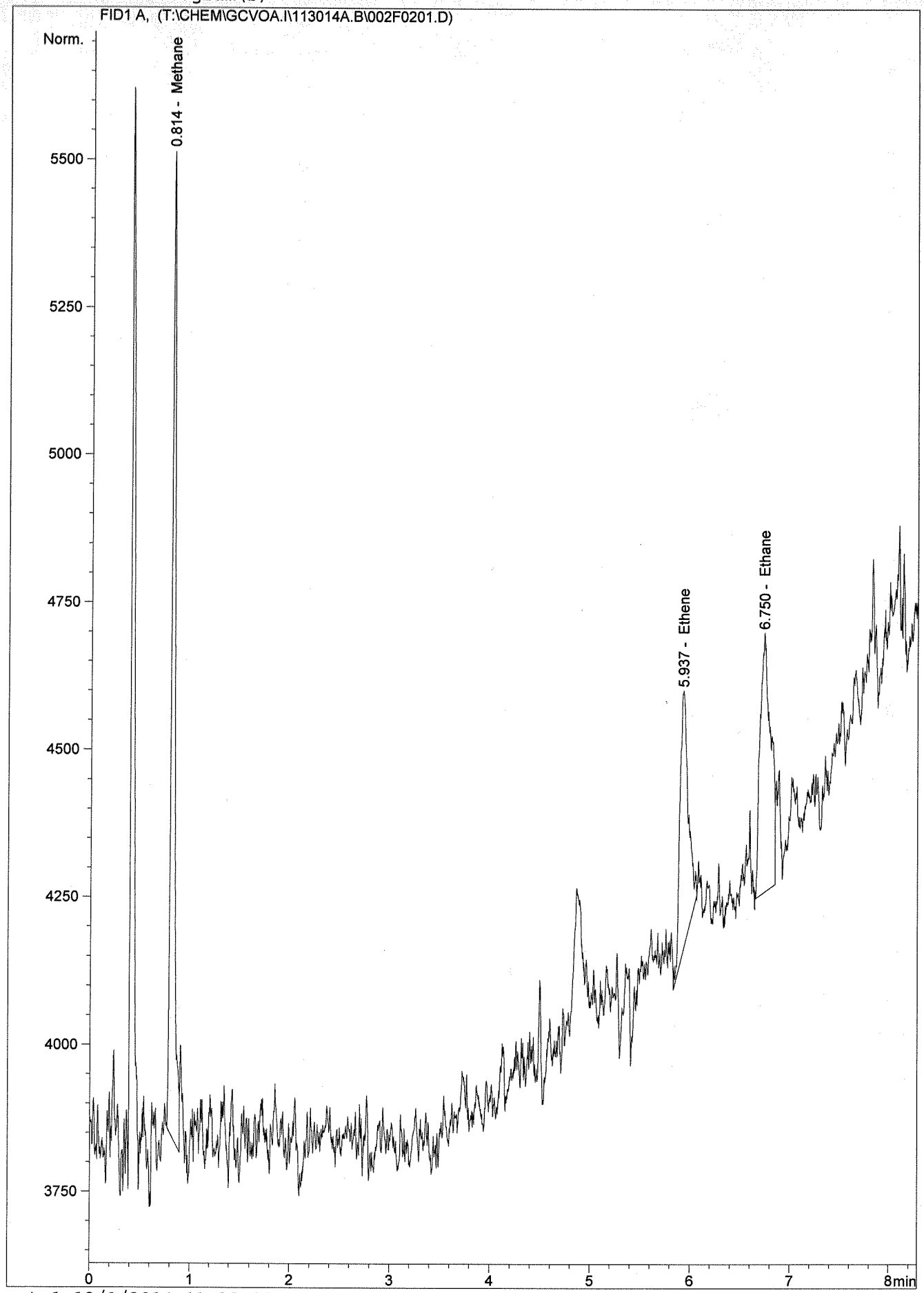
Signal 1: FID1 A,

RetTime [min]	Type	Area counts*s	Amt/Area	Amount [ug/L]	Grp	Name
0.814	MF +	4100.40137	0.00000	0.00000-		Methane
5.937	MF +	2633.27100	1.91160e-6	5.03377e-3		Ethene
6.750	BV +	3184.92358	1.81649e-6	5.78537e-3		Ethane
Totals :				1.08191e-2		

3 Warnings or Errors :

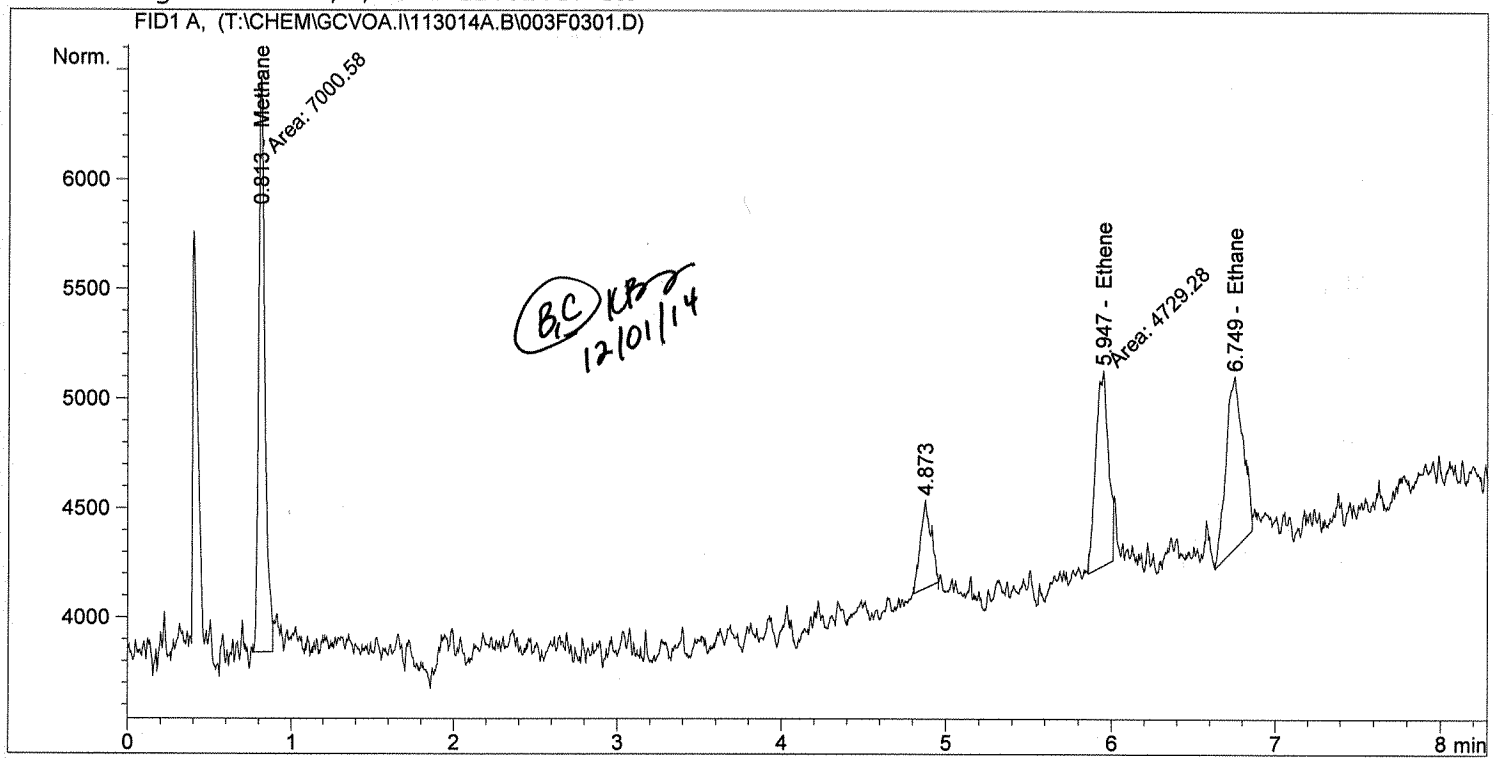
Warning : Calibration warnings (see calibration table listing)

Current Chromatogram(s)



Data File T:\CHEM\GCVOA.I\113014A.B\003F0301.D
Sample Name: SEQ-CAL2

Acq. Operator	:	Seq. Line	: 3
Acq. Instrument	: GCVOA	Location	: Vial 3
Injection Date	: 11/30/2014 11:09:15 PM	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\HPCHEM\1\METHODS\MEE-FAST.M		
Last changed	: 9/8/2011 1:56:36 PM by RDW		
Analysis Method	: T:\CHEM\GCVOA.I\112614.B\113014MEE.M		
Last changed	: 12/1/2014 12:02:47 PM		



BC KB 12/01/14

External Standard Report

Sorted By	:	Signal
Calib. Data Modified	:	12/1/2014 11:57:38 AM
Multiplier:	:	1.0000
Dilution:	:	1.0000

Do not use Multiplier & Dilution Factor with ISTDs

12/02/14

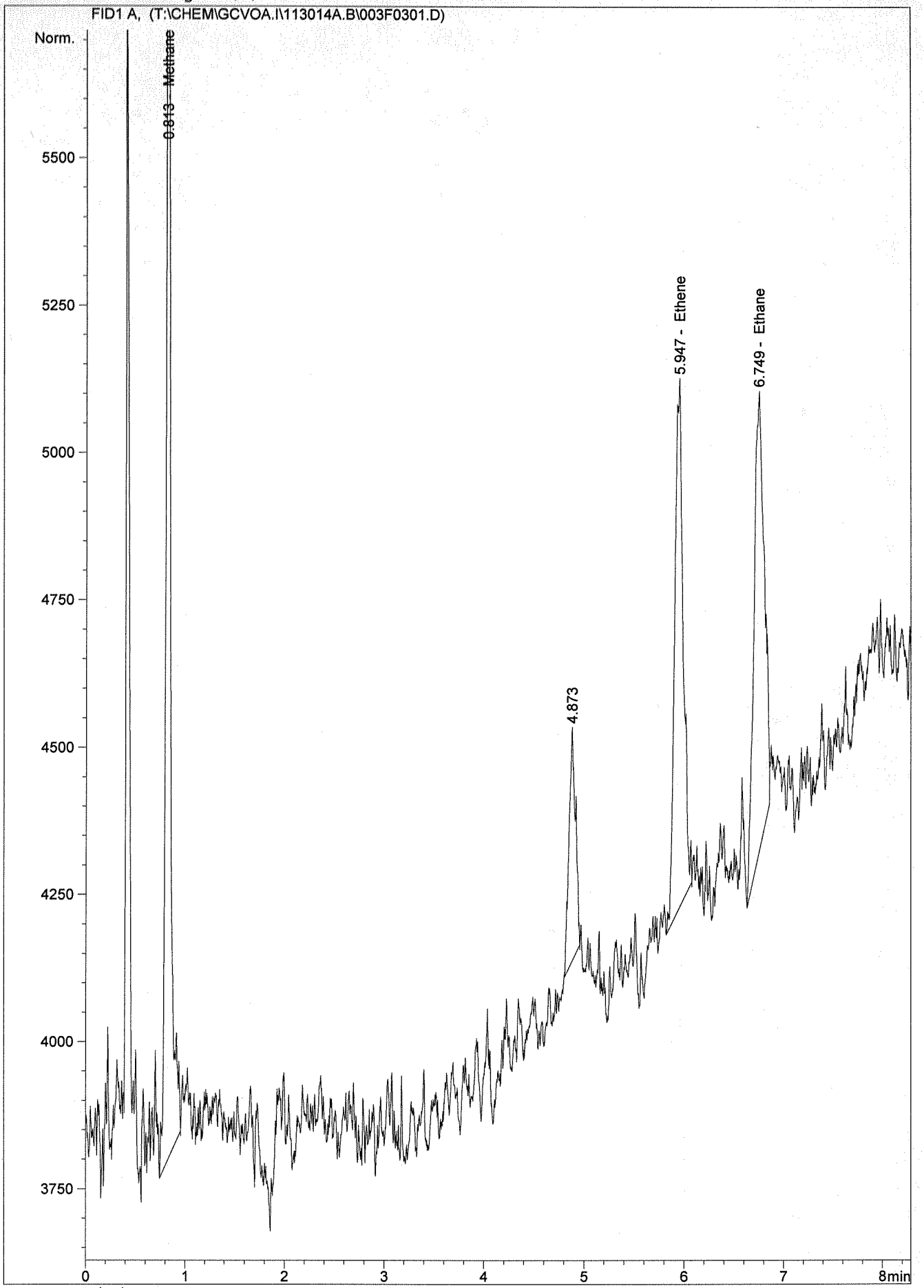
Signal 1: FID1 A,

RetTime [min]	Type	Area counts*s	Amt/Area	Amount [ug/L]	Grp	Name
0.813	MF +	7000.57910	2.24622e-7	1.57249e-3	-	Methane
5.947	MF +	4729.28027	1.91160e-6	9.04051e-3		Ethene
6.749	BV +	5670.37695	1.81649e-6	1.03002e-2		Ethane
Totals :				2.09132e-2		

2 Warnings or Errors :

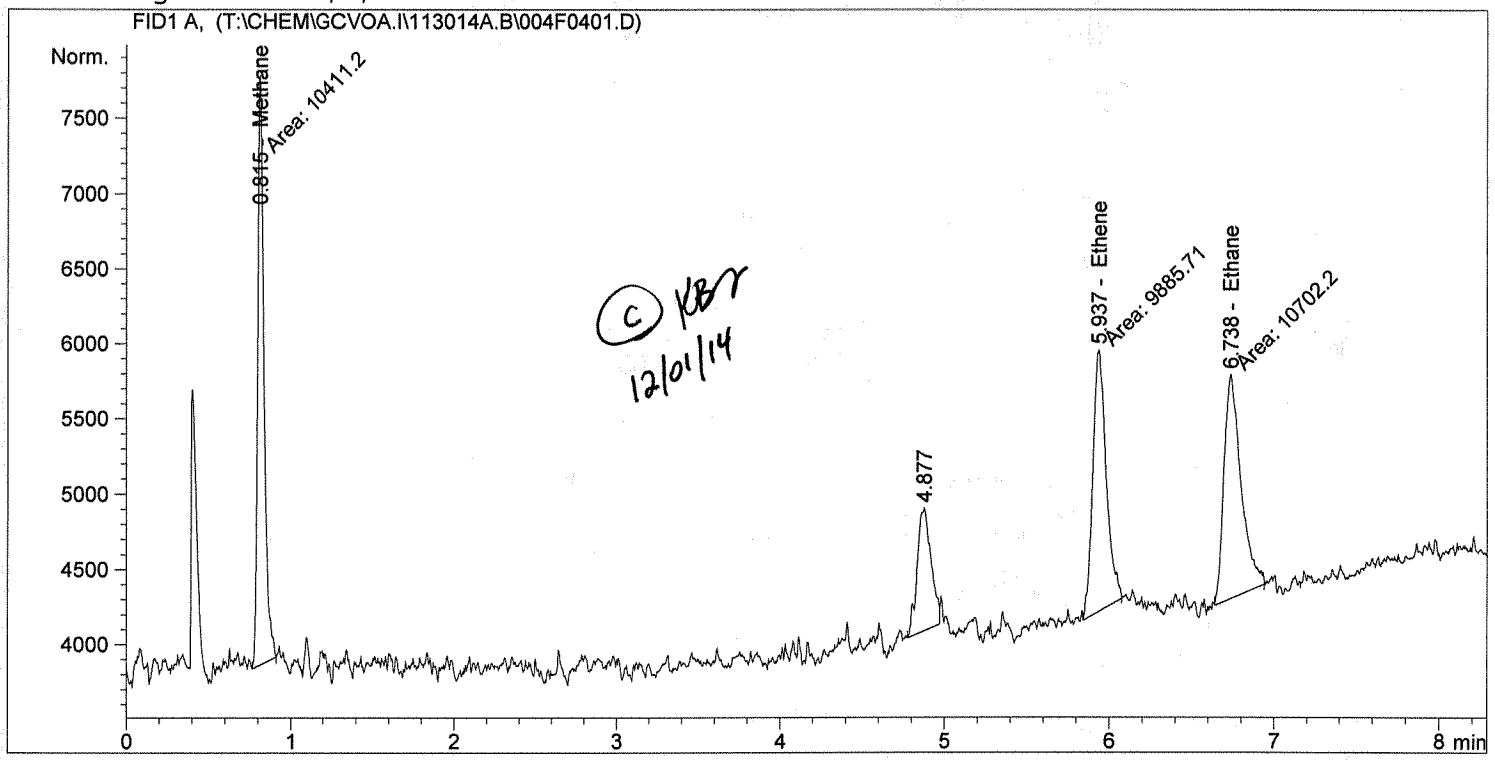
Warning : Calibration warnings (see calibration table listing)

Current Chromatogram(s)



Data File T:\CHEM\GCVOA.I\113014A.B\004F0401.D
Sample Name: SEQ-CAL3

```
==========================================================================
Acq. Operator    :                                  Seq. Line :   4
Acq. Instrument  : GCVOA                             Location : Vial 4
Injection Date   : 11/30/2014 11:22:49 PM                Inj :   1
                                                   Inj Volume : Manually
Acq. Method      : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed     : 9/8/2011 1:56:36 PM by RDW
Analysis Method  : T:\CHEM\GCVOA.I\112614.B\113014MEE.M
Last changed     : 12/1/2014 12:02:47 PM
```



(c) KBT 12/01/14

```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      12/1/2014 11:57:38 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

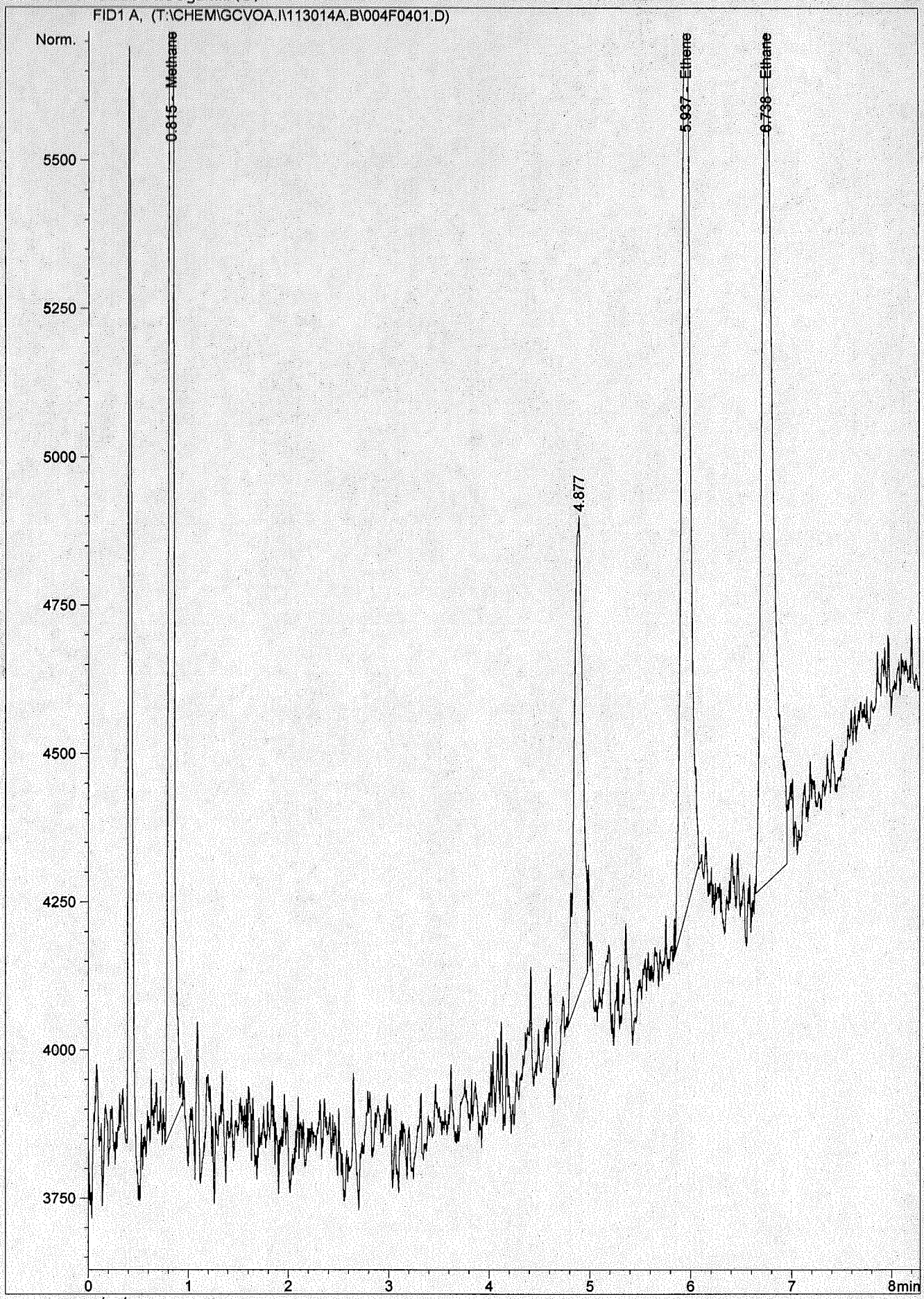
12/02/14

RetTime [min]	Type	Area counts*s	Amt/Area	Amount [ug/L]	Grp	Name
0.815	MM +	1.04112e4	9.29520e-7	9.67743e-3	-	Methane
5.937	MM +	9885.70996	1.91160e-6	1.88976e-2		Ethene
6.738	MM +	1.07022e4	1.81649e-6	1.94404e-2		Ethane
Totals :				4.80154e-2		

```
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
```

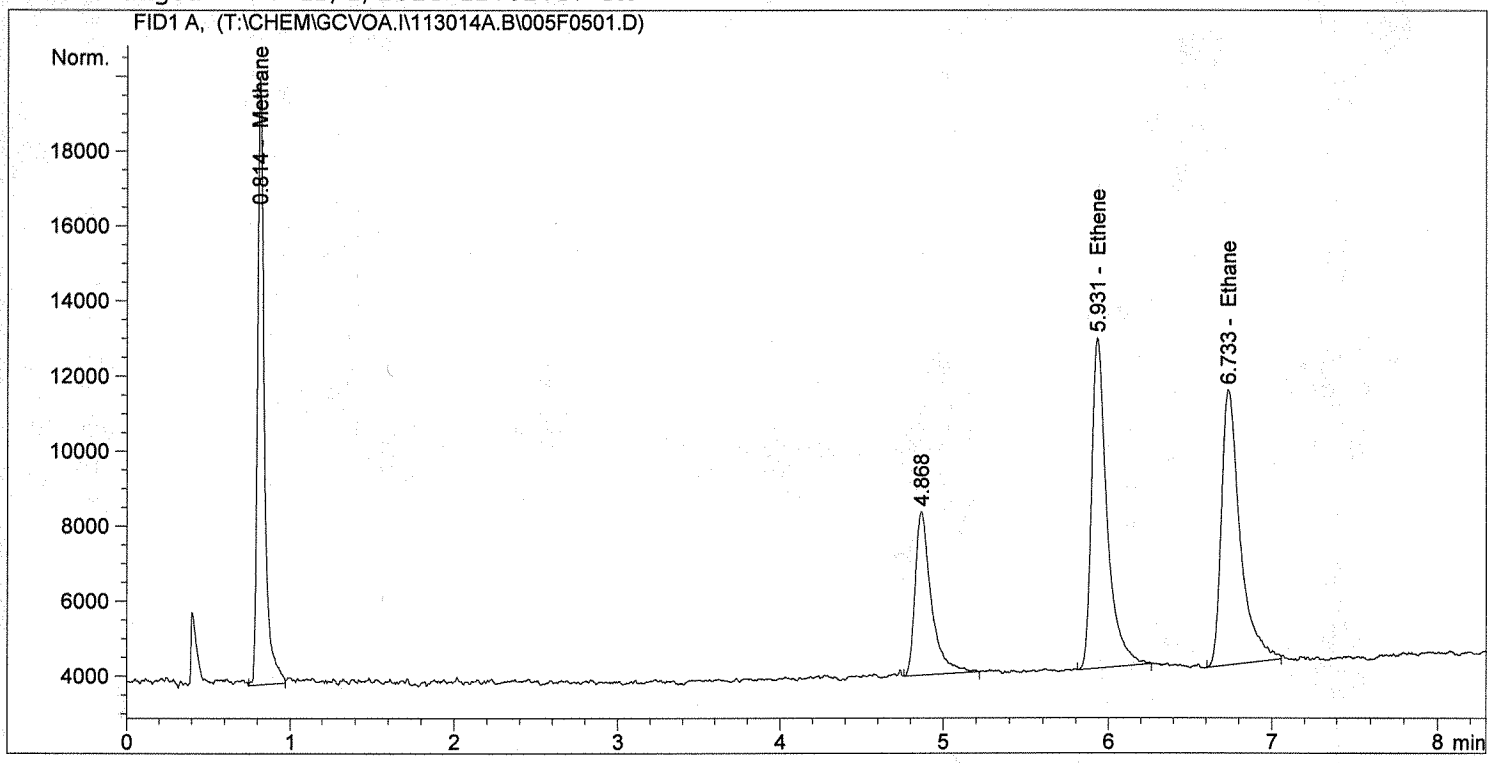
Current Chromatogram(s)



Data File T:\CHEM\GCVOA.I\113014A.B\005F0501.D
Sample Name: SEQ-CAL4

Acq. Operator	:	Seq. Line	: 5
Acq. Instrument	: GCVOA	Location	: Vial 5
Injection Date	: 11/30/2014 11:36:22 PM	Inj	: 1
		Inj Volume	: Manually

Acq. Method : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed : 9/8/2011 1:56:36 PM by RDW
Analysis Method : T:\CHEM\GCVOA.I\112614.B\113014MEE.M
Last changed : 12/1/2014 12:02:47 PM



External Standard Report

Sorted By : Signal
Calib. Data Modified : 12/1/2014 11:57:38 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

KB 12/01/14

Signal 1: FID1 A,

RetTime [min]	Type	Area counts*s	Amt/Area	Amount [ug/L]	Grp	Name
0.814	BV +	4.62402e4	2.06309e-6	9.53976e-2		Methane
5.931	BB +	5.83965e4	1.91160e-6	1.11631e-1		Ethene
6.733	BV +	5.83987e4	1.81649e-6	1.06080e-1		Ethane
Totals :				3.13109e-1		

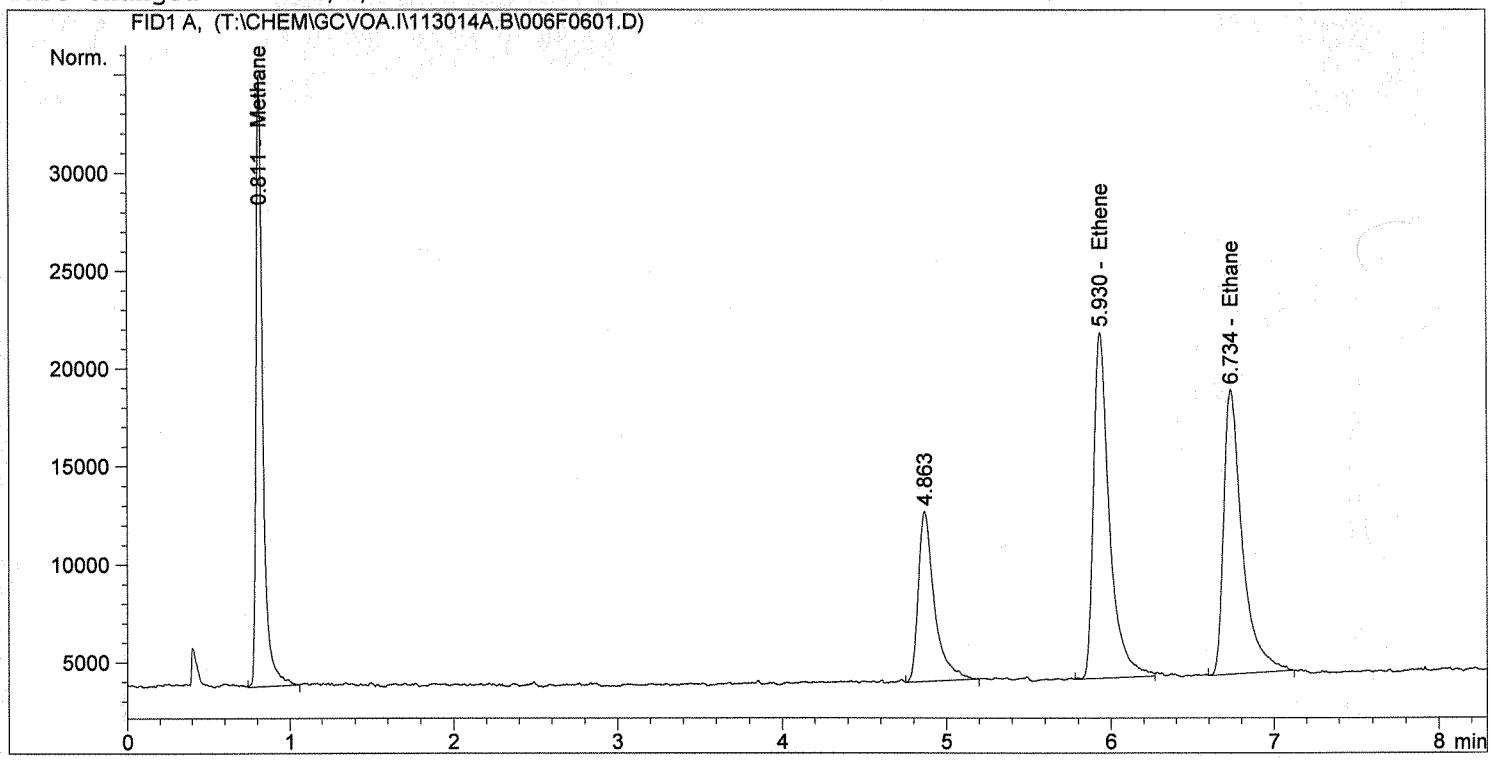
12/02/14

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

Data File T:\CHEM\GCVOA.I\113014A.B\006F0601.D
Sample Name: SEQ-CAL5

Acq. Operator	:	Seq. Line	: 6
Acq. Instrument	: GCVOA	Location	: Vial 6
Injection Date	: 11/30/2014 11:49:56 PM	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\HPCHEM\1\METHODS\MEE-FAST.M		
Last changed	: 9/8/2011 1:56:36 PM by RDW		
Analysis Method	: T:\CHEM\GCVOA.I\112614.B\113014MEE.M		
Last changed	: 12/1/2014 12:02:47 PM		



External Standard Report

Sorted By : Signal
Calib. Data Modified : 12/1/2014 11:57:38 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

KPP 12/01/14

Signal 1: FID1 A,

RetTime [min]	Type		Area counts*s	Amt/Area	Amount [ug/L]	Grp	Name
0.811	BB	+	8.94553e4	2.23834e-6	2.00231e-1		Methane
5.930	BV	+	1.19212e5	1.91160e-6	2.27886e-1		Ethene
6.734	BB	+	1.15706e5	1.81649e-6	2.10179e-1		Ethane
Totals :					6.38296e-1		

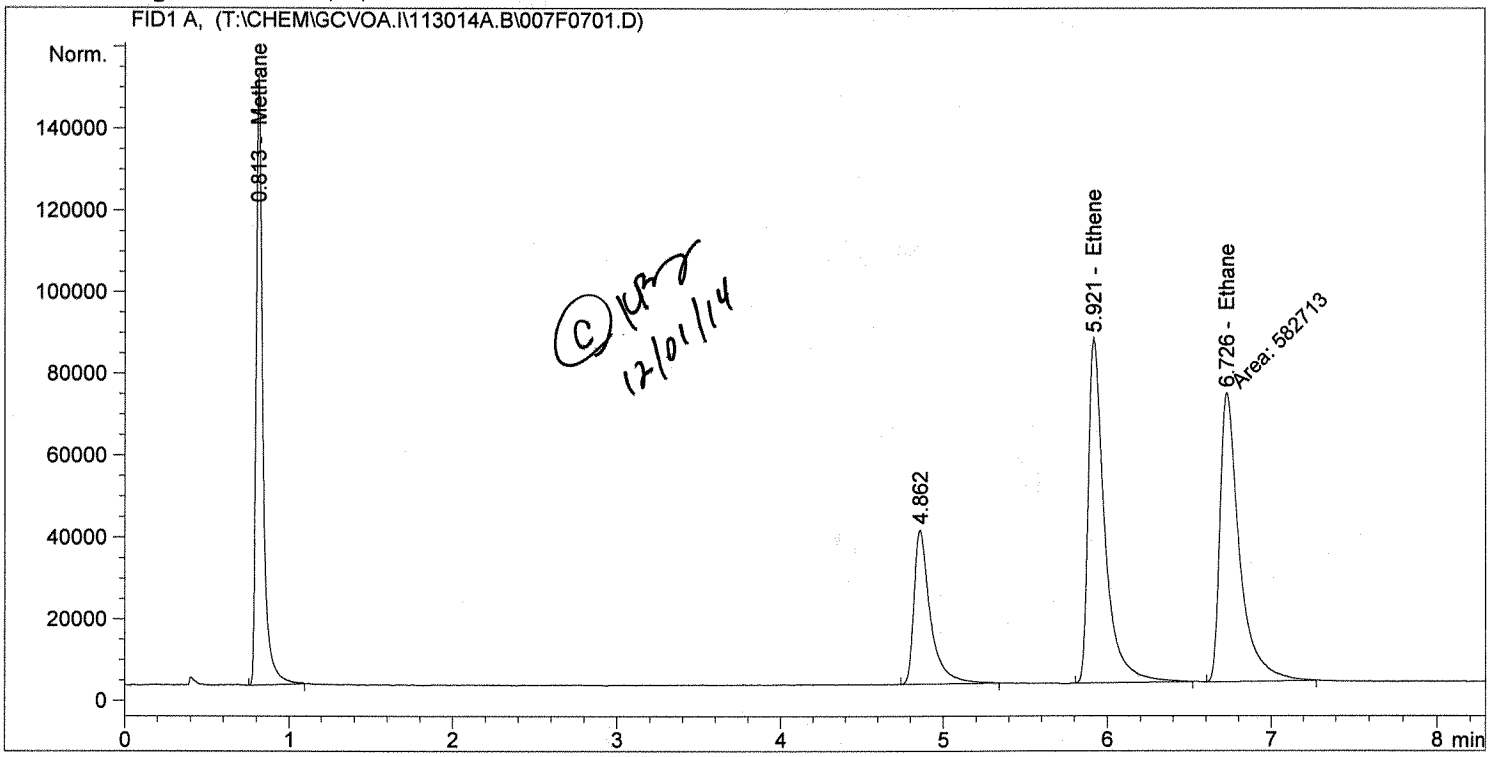
12/02/14

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

Data File T:\CHEM\GCVOA.I\113014A.B\007F0701.D
Sample Name: SEQ-CAL6

Acq. Operator	:	Seq. Line	: 7
Acq. Instrument	: GCVOA	Location	: Vial 7
Injection Date	: 12/1/2014 12:03:31 AM	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\HPCHEM\1\METHODS\MEE-FAST.M		
Last changed	: 9/8/2011 1:56:36 PM by RDW		
Analysis Method	: T:\CHEM\GCVOA.I\112614.B\113014MEE.M		
Last changed	: 12/1/2014 12:02:47 PM		



External Standard Report

Sorted By : Signal
Calib. Data Modified : 12/1/2014 11:57:38 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

12/02/14

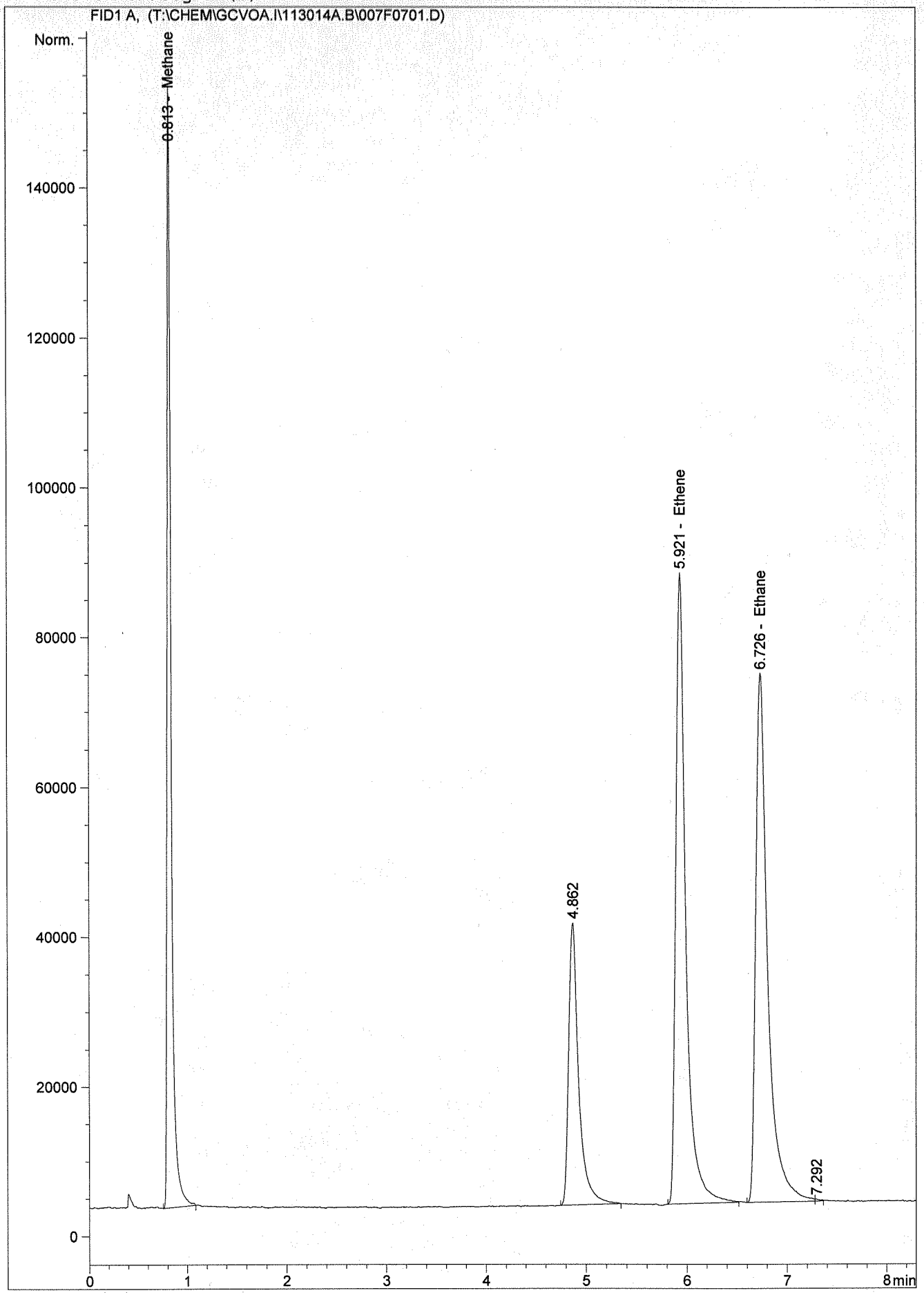
Signal 1: FID1 A,

RetTime [min]	Type	Area counts*s	Amt/Area	Amount [ug/L]	Grp	Name
0.813	BB +	4.22586e5	2.53322e-6	1.07050		Methane
5.921	BV +	5.86832e5	1.91160e-6	1.12179		Ethene
6.726	MM +	5.82713e5	1.81649e-6	1.05849		Ethane
Totals :				3.25079		

1 Warnings or Errors :

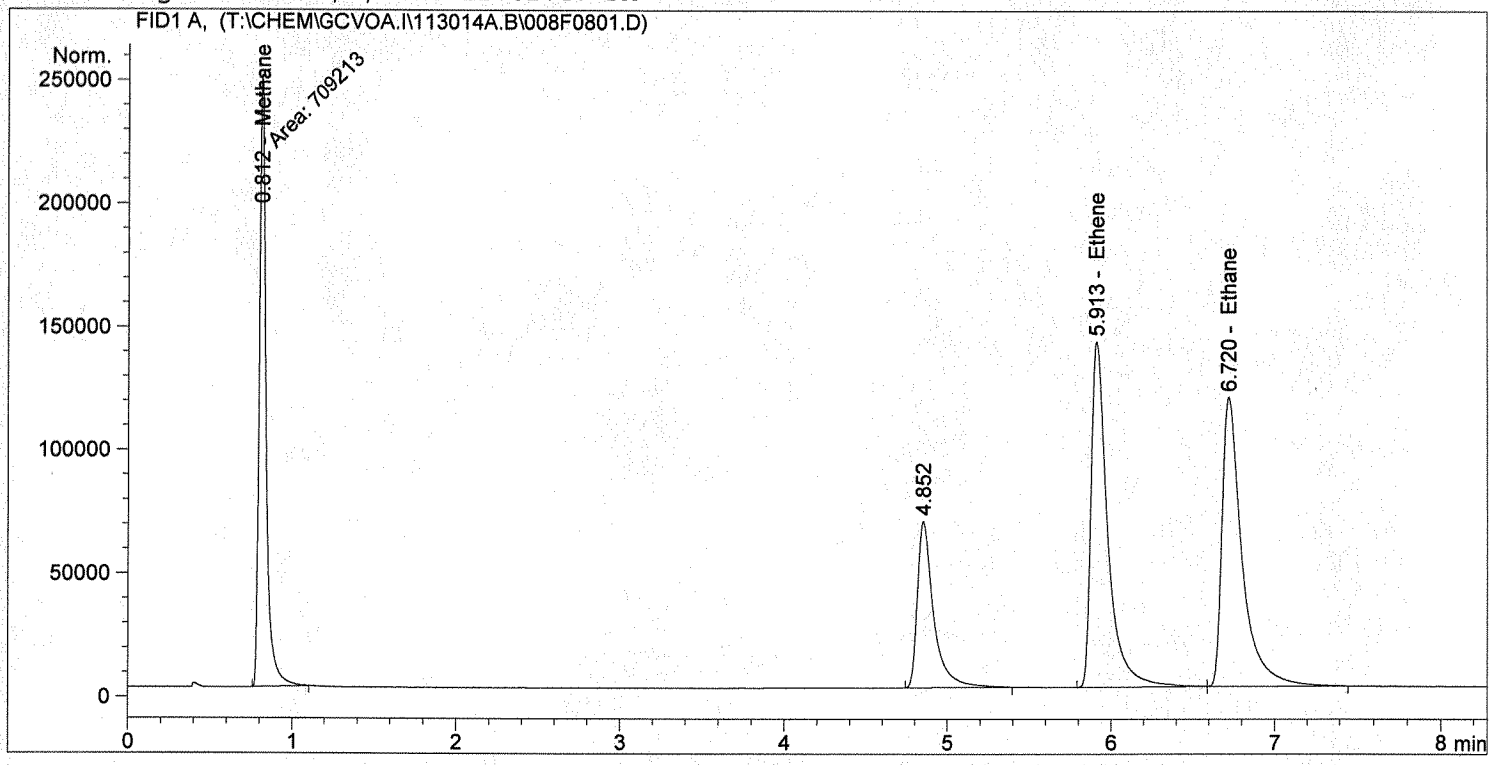
Warning : Calibration warnings (see calibration table listing)

Current Chromatogram(s)



Data File T:\CHEM\GCVOA.I\113014A.B\008F0801.D
Sample Name: SEQ-CAL7

Acq. Operator	:	Seq. Line	: 8
Acq. Instrument	: GCVOA	Location	: Vial 8
Injection Date	: 12/1/2014 12:17:05 AM	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\HPCHEM\1\METHODS\MEE-FAST.M		
Last changed	: 9/8/2011 1:56:36 PM by RDW		
Analysis Method	: T:\CHEM\GCVOA.I\112614.B\113014MEE.M		
Last changed	: 12/1/2014 12:02:47 PM		



External Standard Report

Sorted By : Signal
Calib. Data Modified : 12/1/2014 11:57:38 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

12/01/14

Signal 1: FID1 A,

RetTime [min]	Type	Area counts*s	Amt/Area	Amount [ug/L]	Grp	Name
0.812	MM +	7.09213e5	2.73291e-6	1.93822		Methane
5.913	BB +	9.99348e5	1.91160e-6	1.91036		Ethene
6.720	BB +	9.91783e5	1.81649e-6	1.80156		Ethane
Totals :				5.65014		

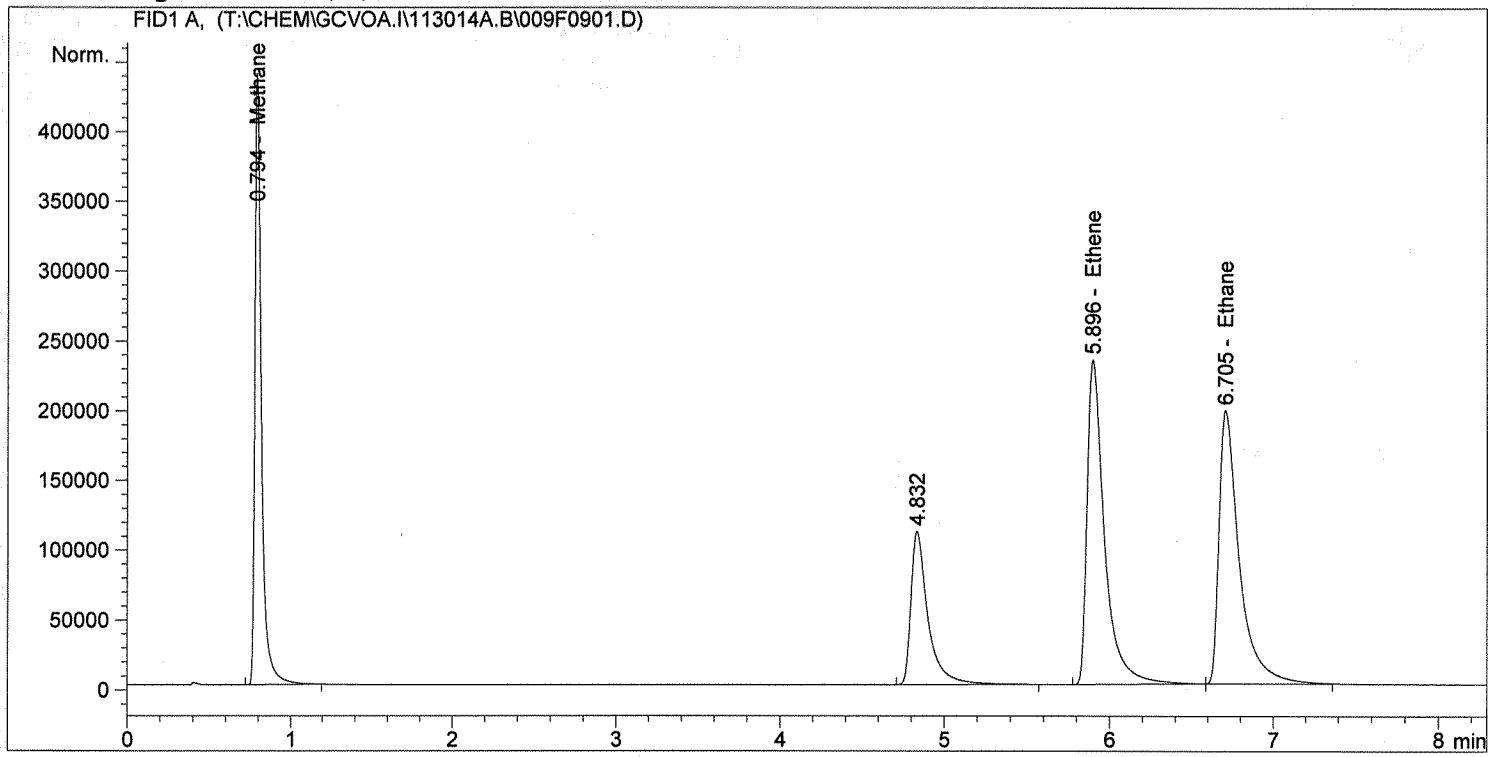
12/02/14

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

Data File T:\CHEM\GCVOA.I\113014A.B\009F0901.D
Sample Name: SEQ-CAL8

```
==========================================================================
Acq. Operator    :                                  Seq. Line :    9
Acq. Instrument : GCVOA                              Location : Vial 9
Injection Date  : 12/1/2014 12:30:39 AM                  Inj :    1
                                                  Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 9/8/2011 1:56:36 PM by RDW
Analysis Method : T:\CHEM\GCVOA.I\112614.B\113014MEE.M
Last changed    : 12/1/2014 12:02:47 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      12/1/2014 11:57:38 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area     Amount    Grp   Name
 [min]           counts*s                 [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.794 BBA +   1.21103e6  3.31721e-6    4.01722+   Methane
  5.896 BB  +   1.69828e6  1.91160e-6    3.24645    Ethene
  6.705 BV  +   1.69541e6  1.81649e-6    3.07969    Ethane

Totals :                                 10.34336


2 Warnings or Errors :

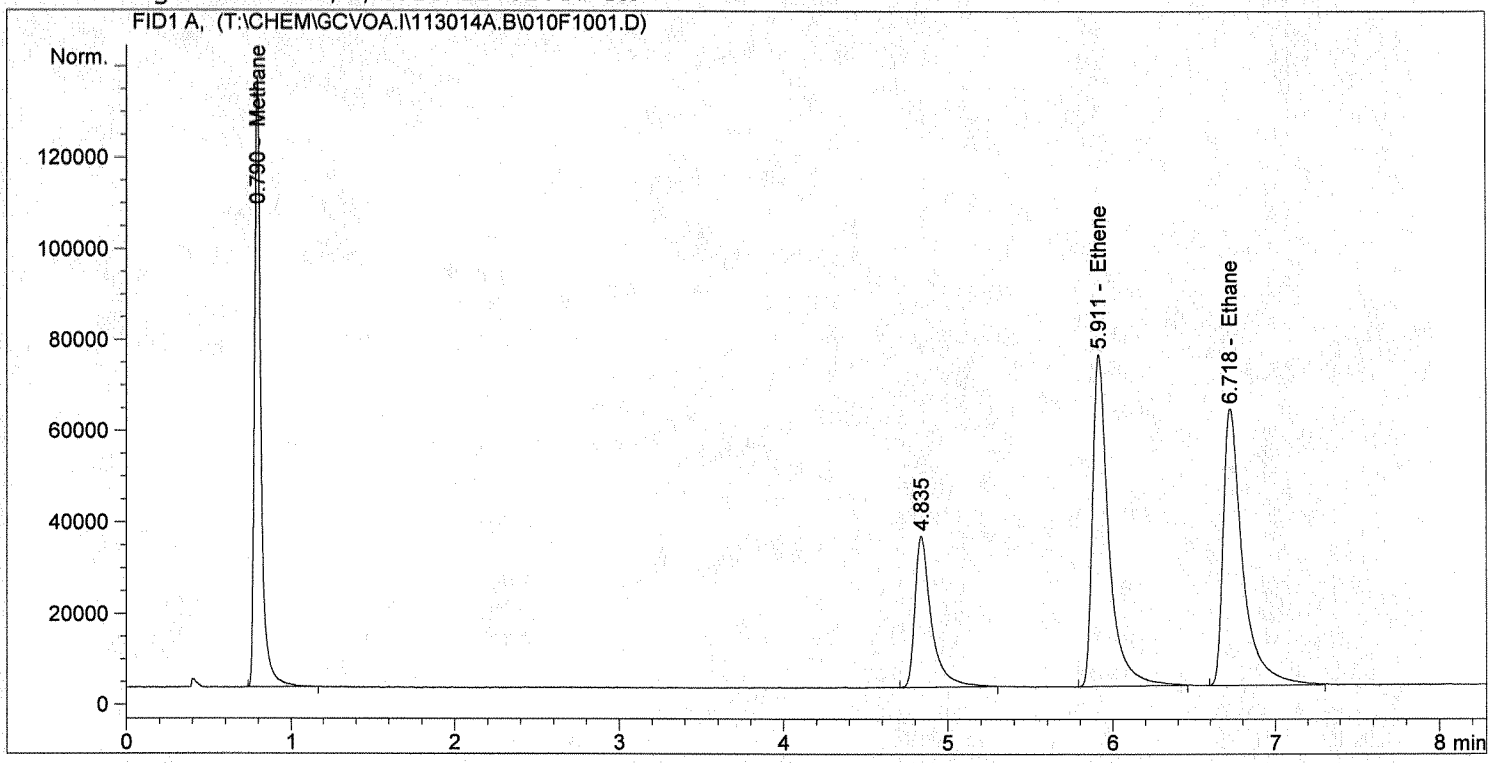
Warning : Calibration warnings (see calibration table listing)
```

12/01/14

12/02/14

Data File T:\CHEM\GCVOA.I\113014A.B\010F1001.D
Sample Name: SEQ-ICV1

```
================================================================================
Acq. Operator    :                                    Seq. Line :  10
Acq. Instrument  : GCVOA                               Location : Vial 10
Injection Date   : 12/1/2014 12:44:14 AM                    Inj :   1
                                                    Inj Volume : Manually
Acq. Method      : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed     : 9/8/2011 1:56:36 PM by RDW
Analysis Method  : T:\CHEM\GCVOA.I\112614.B\113014MEE.M
Last changed     : 12/1/2014 12:02:47 PM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      12/1/2014 11:57:38 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs
```

12/01/14

```
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.790 BBA +   3.63070e5  2.49501e-6 9.05862e-1    Methane
  5.911 BV  +   5.07854e5  1.91160e-6 9.70816e-1    Ethene
  6.718 BV  +   5.06658e5  1.81649e-6 9.20337e-1    Ethane

Totals :                                2.79701

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
```

12/02/14

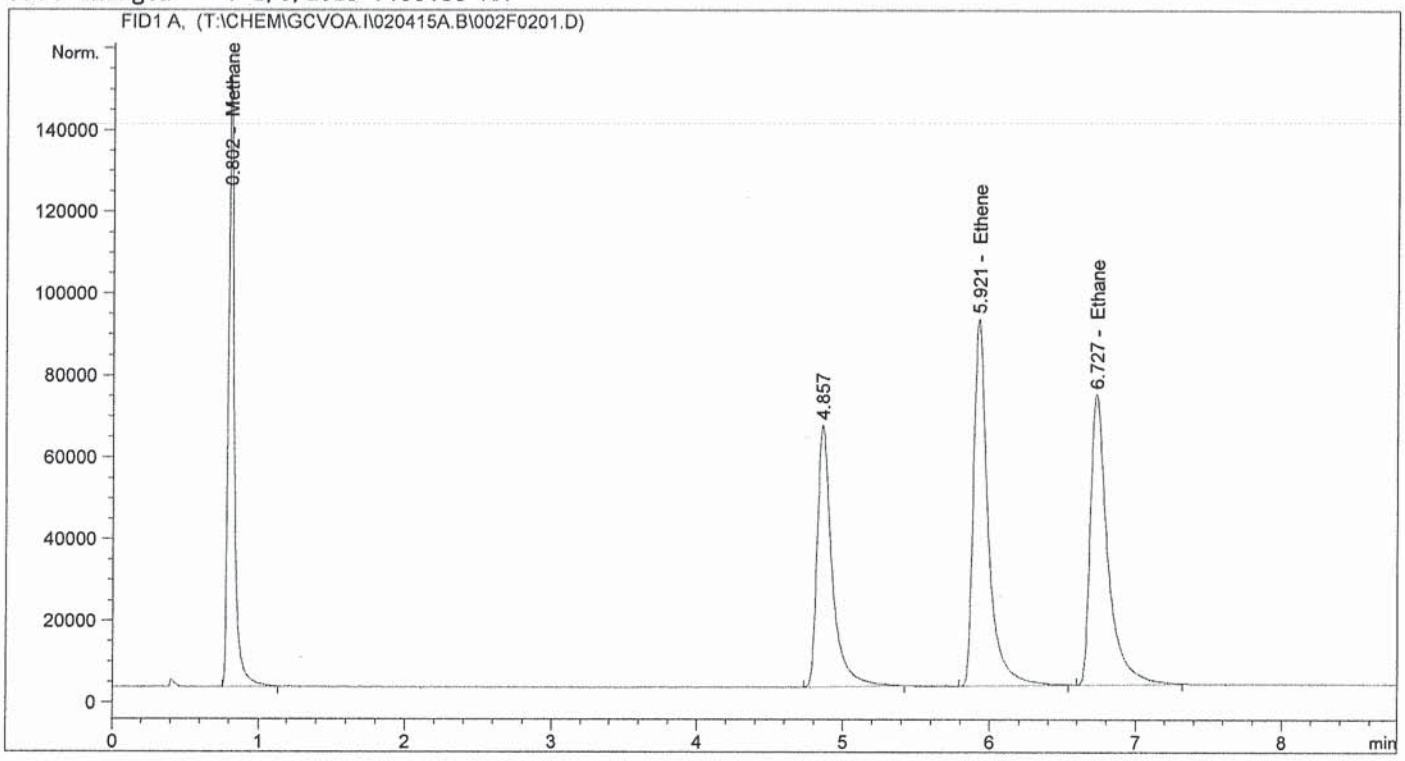
Partial Sequence: C:\HPCHEM\1\SEQUENCE\020415A.S \GCVOA\FID\MEE

Pg 853
MS
2/6/15

Sel	Run	Location	Method	Datafile	SeqTable	Calib:RF:RT	Sample Name
No	1	Vial 1	MEE-FAST	001F0101	F:01:01		INST BLANK
No	2	Vial 2	MEE-FAST	002F0201	F:02:01		SEQ-CCV1 15B0103
No	3	Vial 3	MEE-FAST	003F0301	F:03:01		5B04002-BLK1 x1
No	4	Vial 4	MEE-FAST	004F0401	F:04:01		5B04002-BS1
No	5	Vial 5	MEE-FAST	005F0501	F:05:01		1501102-01
No	6	Vial 6	MEE-FAST	006F0601	F:06:01		1501102-02
No	7	Vial 7	MEE-FAST	007F0701	F:07:01		1501102-04
No	8	Vial 8	MEE-FAST	008F0801	F:08:01		1501102-05
No	9	Vial 9	MEE-FAST	009F0901	F:09:01		1501104-01
No	10	Vial 10	MEE-FAST	010F1001	F:10:01		1501104-02
No	11	Vial 11	MEE-FAST	011F1101	F:11:01		5B04002-MS1
No	12	Vial 12	MEE-FAST	012F1201	F:12:01		5B04002-MSD1
No	13	Vial 13	MEE-FAST	013F1301	F:13:01		1501104-03
No	14	Vial 14	MEE-FAST	014F1401	F:14:01		1501104-04
No	15	Vial 15	MEE-FAST	015F1501	F:15:01		1501104-05
No	16	Vial 16	MEE-FAST	016F1601	F:16:01		1501116-02
No	17	Vial 17	MEE-FAST	017F1701	F:17:01		SEQ-CCV2 15B0103
No	18	Vial 18	MEE-FAST	018F1801	F:18:01		1501116-03 x1
No	19	Vial 19	MEE-FAST	019F1901	F:19:01		1501116-04
No	20	Vial 20	MEE-FAST	020F2001	F:20:01		1501116-05
No	21	Vial 21	MEE-FAST	021F2101	F:21:01		5B04002-MS2
No	22	Vial 22	MEE-FAST	022F2201	F:22:01		5B04002-MSD2
No	23	Vial 23	MEE-FAST	023F2301	F:23:01		1501116-06
No	24	Vial 24	MEE-FAST	024F2401	F:24:01		1501116-07
No	25	Vial 25	MEE-FAST	025F2501	F:25:01		1501124-03
No	26	Vial 26	MEE-FAST	026F2601	F:26:01		1501124-04
No	27	Vial 27	MEE-FAST	027F2701	F:27:01		1501124-05
No	28	Vial 28	MEE-FAST	028F2801	F:28:01		1501134-03
No	29	Vial 29	MEE-FAST	029F2901	F:29:01		SEQ-CCV3 15B0103

Data File T:\CHEM\GCVOA.I\020415A.B\002F0201.D
Sample Name: SEQ-CCV1

```
==========================================================================
Acq. Operator   :                                  Seq. Line :   2
Acq. Instrument : GCVOA                            Location : Vial 2
Injection Date  : 2/4/2015 11:47:29 AM                 Inj :   1
                                                   Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                 [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.802 BB   +  4.21863e5  2.53276e-6    1.06848    Methane
  5.921 BB   +  6.25981e5  1.91160e-6    1.19663    Ethene
  6.727 BV   +  5.93307e5  1.81649e-6    1.07773    Ethane

Totals :                                 3.34284

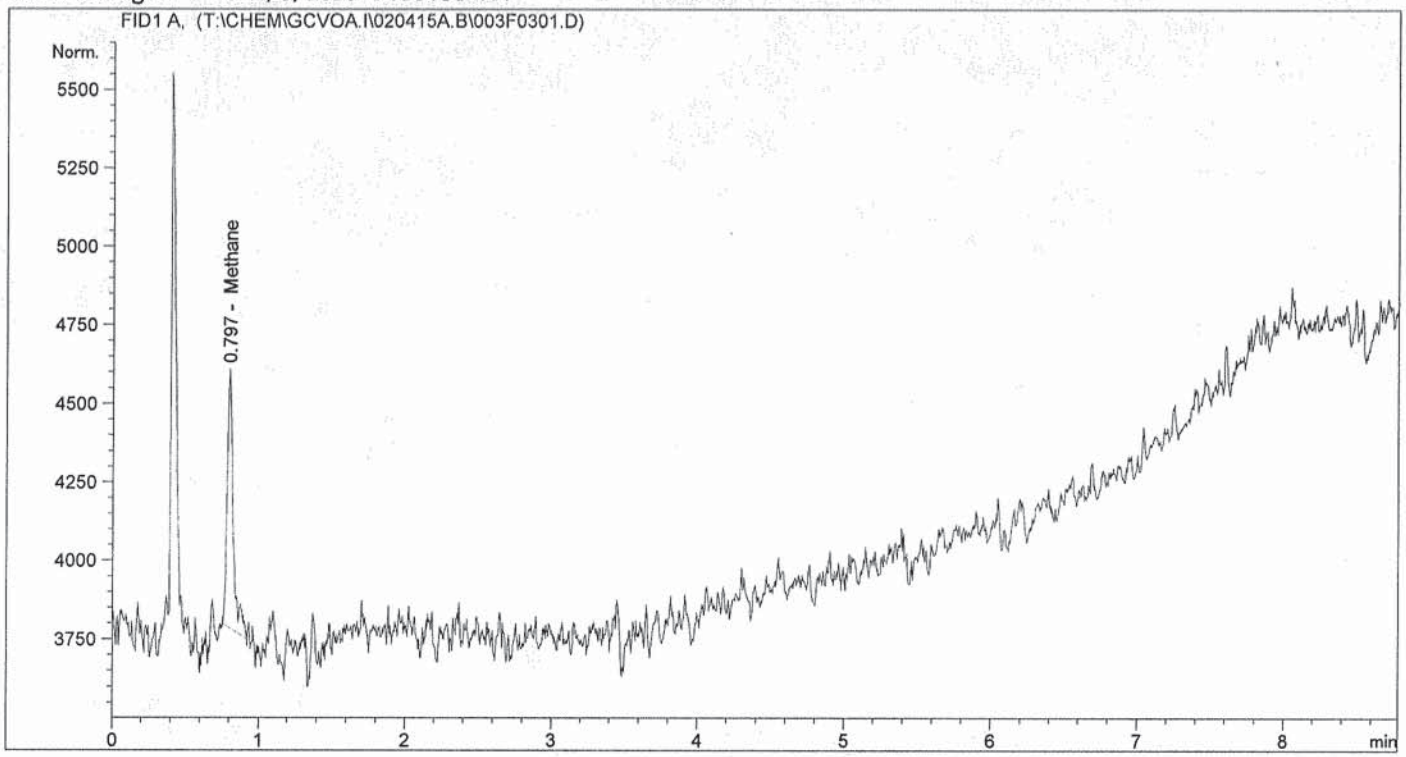

==========================================================================
                        *** End of Report ***
```

02/09/15

2/6/15

Data File T:\CHEM\GCVOA.I\020415A.B\003F0301.D
Sample Name: 5B04002-BLK1

```
==========================================================================
Acq. Operator    :                                  Seq. Line :   3
Acq. Instrument : GCVOA                              Location : Vial 3
Injection Date  : 2/4/2015 12:01:06 PM                   Inj :   1
                                                   Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                 [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.797 BB   + 2331.34180    0.00000    0.00000-   Methane
  5.921            -           -          -     -   Ethene
  6.727            -           -          -     -   Ethane

Totals :                                  0.00000

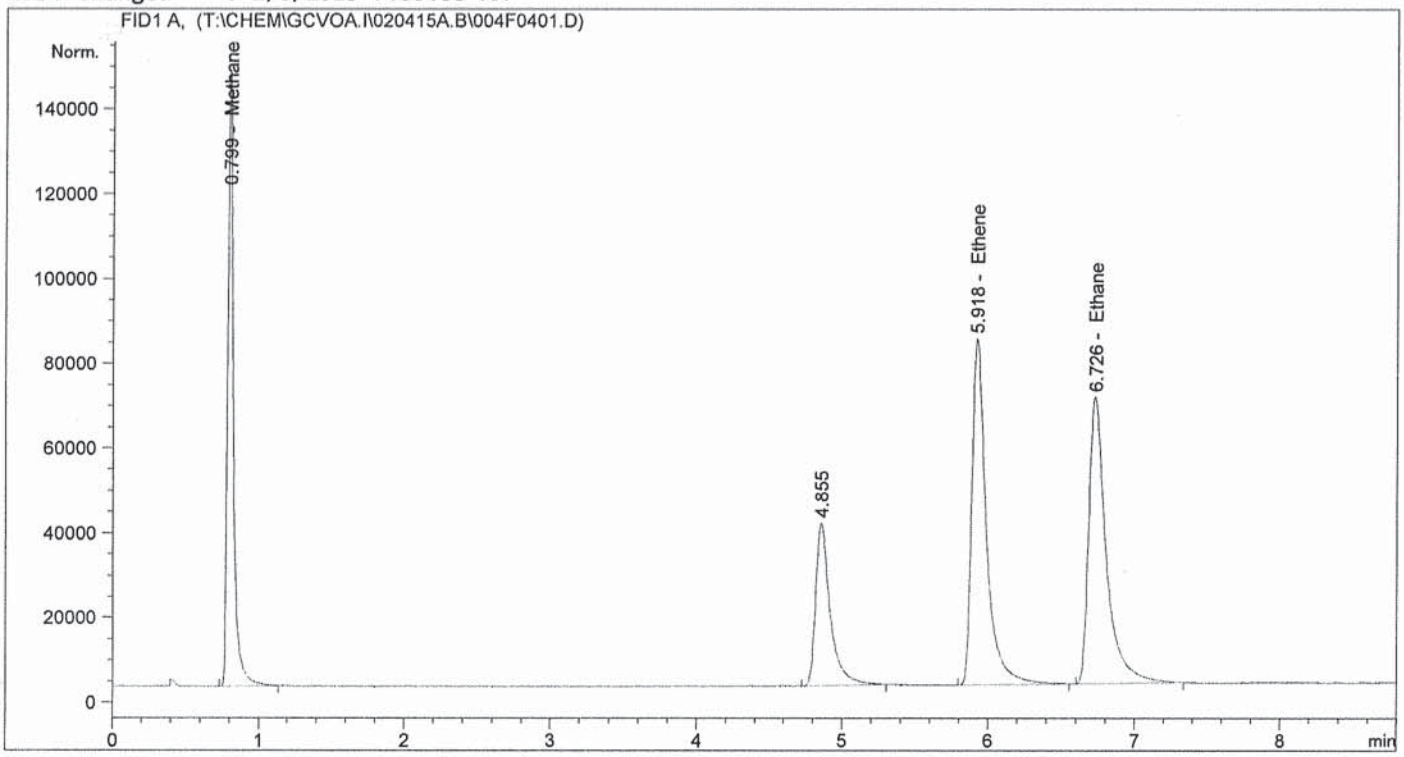

3 Warnings or Errors :
```

02/09/15

MS 2/6/15

Data File T:\CHEM\GCVOA.I\020415A.B\004F0401.D
Sample Name: 5B04002-BS1

```
======================================================================
Acq. Operator   :                                Seq. Line :   4
Acq. Instrument : GCVOA                           Location : Vial 4
Injection Date  : 2/4/2015 12:14:40 PM                Inj :   1
                                                 Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
```




```
======================================================================
                    External Standard Report
======================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                 [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.799 BB   +  4.03003e5  2.52065e-6    1.01583    Methane
  5.918 BB   +  5.69819e5  1.91160e-6    1.08927    Ethene
  6.726 BB   +  5.61935e5  1.81649e-6    1.02075    Ethane

Totals :                                 3.12585

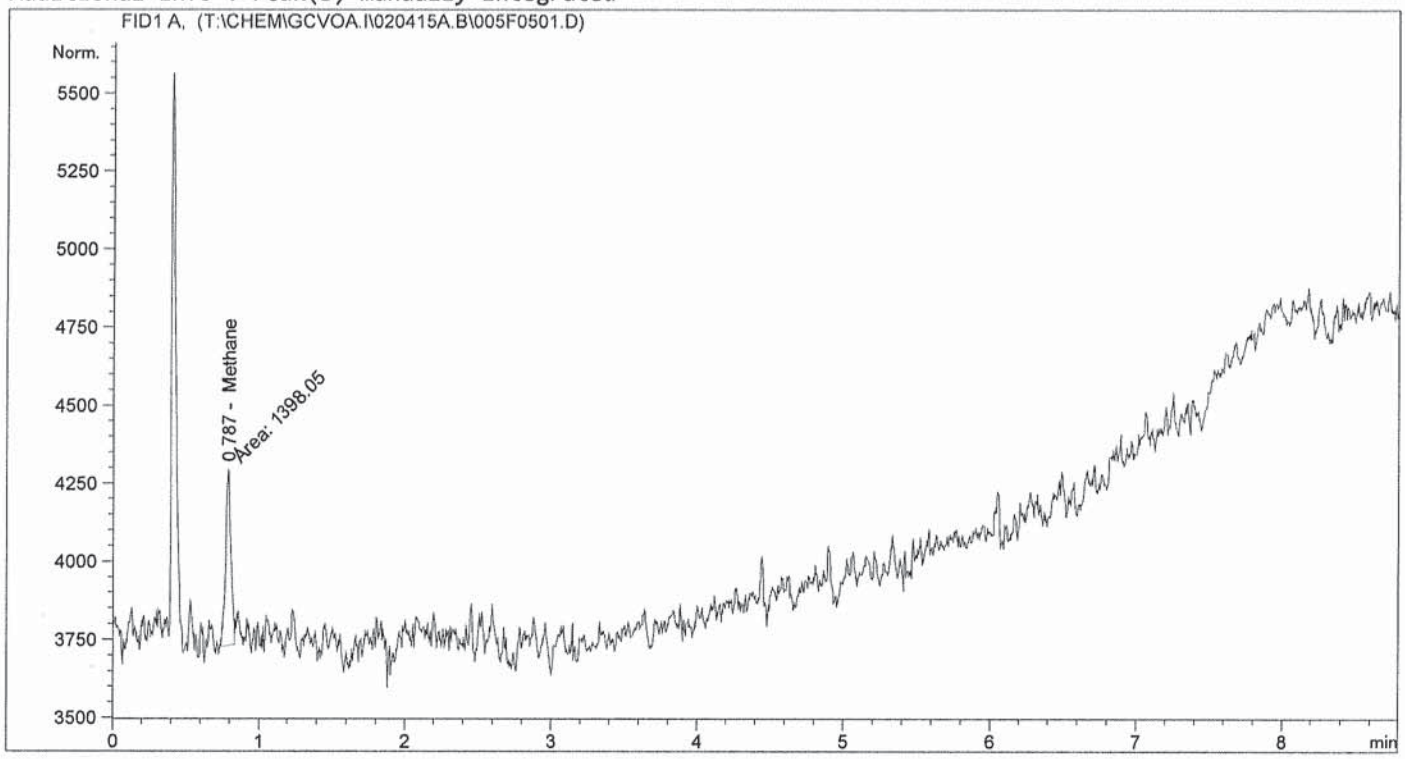

======================================================================
                        *** End of Report ***
```

02/09/15

NS 2/6/15

Data File T:\CHEM\GCVOA.I\020415A.B\005F0501.D
Sample Name: 1501102-01

```
======================================================================
Acq. Operator   :                                Seq. Line :   5
Acq. Instrument : GCVOA                           Location : Vial 5
Injection Date  : 2/4/2015 12:28:16 PM                Inj :   1
                                                 Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
Additional Info : Peak(s) manually integrated
```




```
======================================================================
                    External Standard Report
======================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.787 MF   +  1398.04822    0.00000    0.00000-   Methane
  5.921            -           -          -      -   Ethene
  6.727            -           -          -      -   Ethane

Totals :                                  0.00000


3 Warnings or Errors :
```

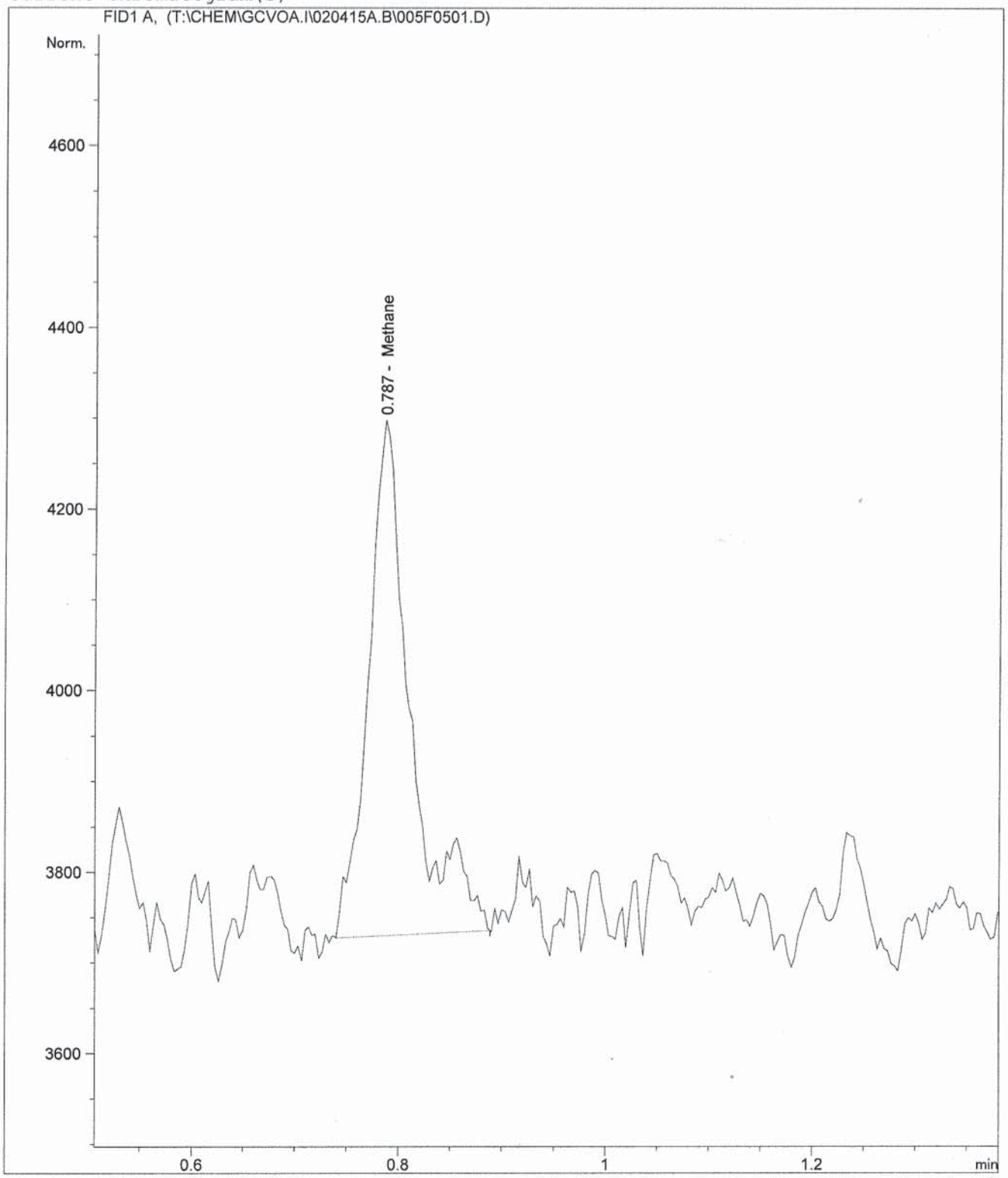
02/09/15

MS 2/6/15

Print of window 38: Current Chromatogram(s)
Data File : T:\CHEM\GCVOA.I\020415A.B\005F0501.D
Sample Name : 1501102-01

Acq. Operator	:	Seq. Line	: 5
Acq. Instrument	: GCVOA	Location	: Vial 5
Injection Date	: 2/4/2015 12:28:16 PM	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\HPCHEM\1\METHODS\MEE-FAST.M		
Last changed	: 2/4/2015 11:03:36 AM		
Analysis Method	: T:\CHEM\GCVOA.I\020415A.B\113014MEE.M		
Last changed	: 2/6/2015 7:55:33 AM		

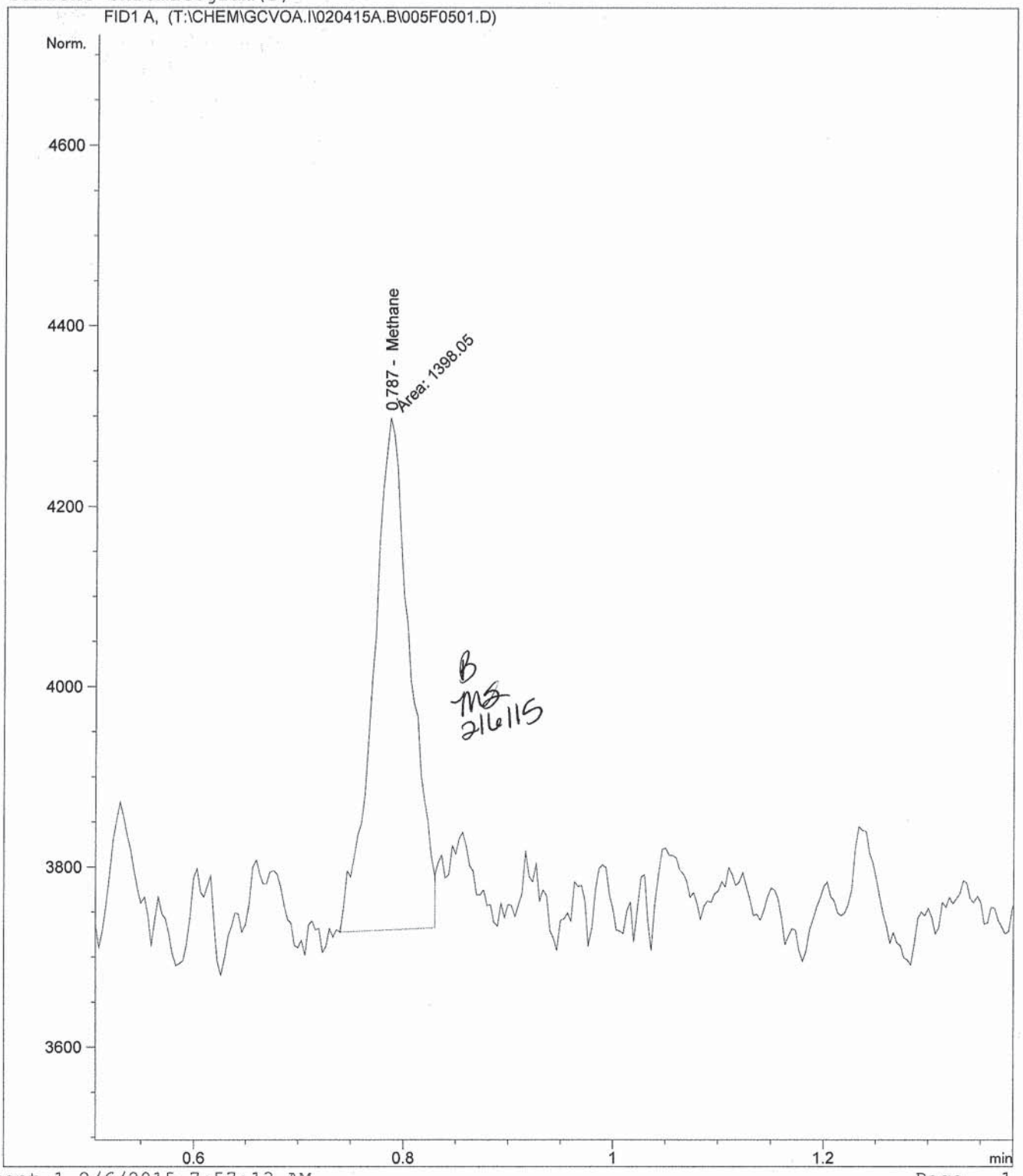
Current Chromatogram(s)



Print of window 38: Current Chromatogram(s)
Data File : T:\CHEM\GCVOA.I\020415A.B\005F0501.D
Sample Name : 1501102-01

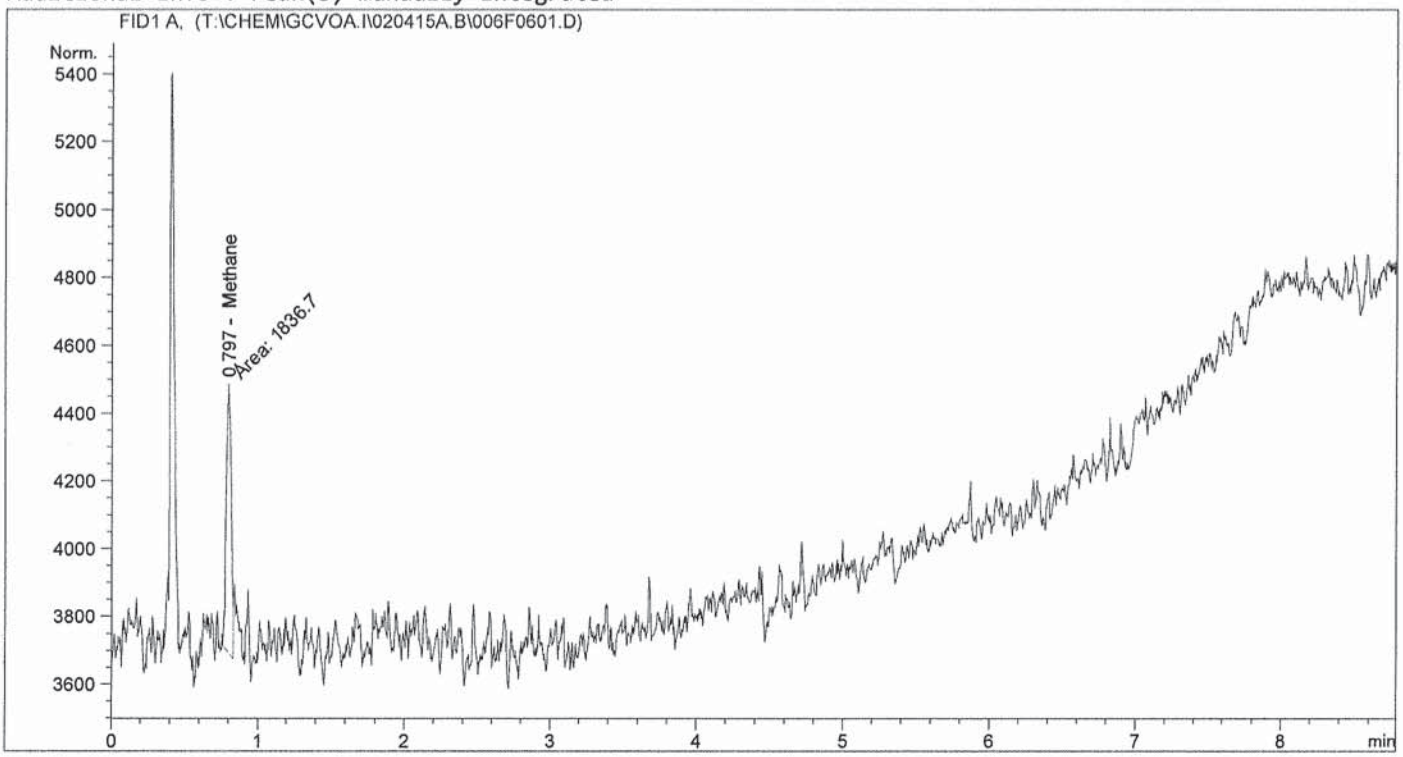
Acq. Operator	:	Seq. Line	: 5
Acq. Instrument	: GCVOA	Location	: Vial 5
Injection Date	: 2/4/2015 12:28:16 PM	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\HPCHEM\1\METHODS\MEE-FAST.M		
Last changed	: 2/4/2015 11:03:36 AM		
Analysis Method	: T:\CHEM\GCVOA.I\020415A.B\113014MEE.M		
Last changed	: 2/6/2015 7:55:33 AM		
Additional Info	: Peak(s) manually integrated		

Current Chromatogram(s)



Data File T:\CHEM\GCVOA.I\020415A.B\006F0601.D
Sample Name: 1501102-02

```
==========================================================================
Acq. Operator   :                                Seq. Line :   6
Acq. Instrument : GCVOA                           Location : Vial 6
Injection Date  : 2/4/2015 12:41:55 PM                Inj :   1
                                                 Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
Additional Info : Peak(s) manually integrated
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.797 MF   +  1836.69824    0.00000    0.00000-   Methane
  5.921            -           -          -     -   Ethene
  6.727            -           -          -     -   Ethane

Totals :                                  0.00000


3 Warnings or Errors :
```

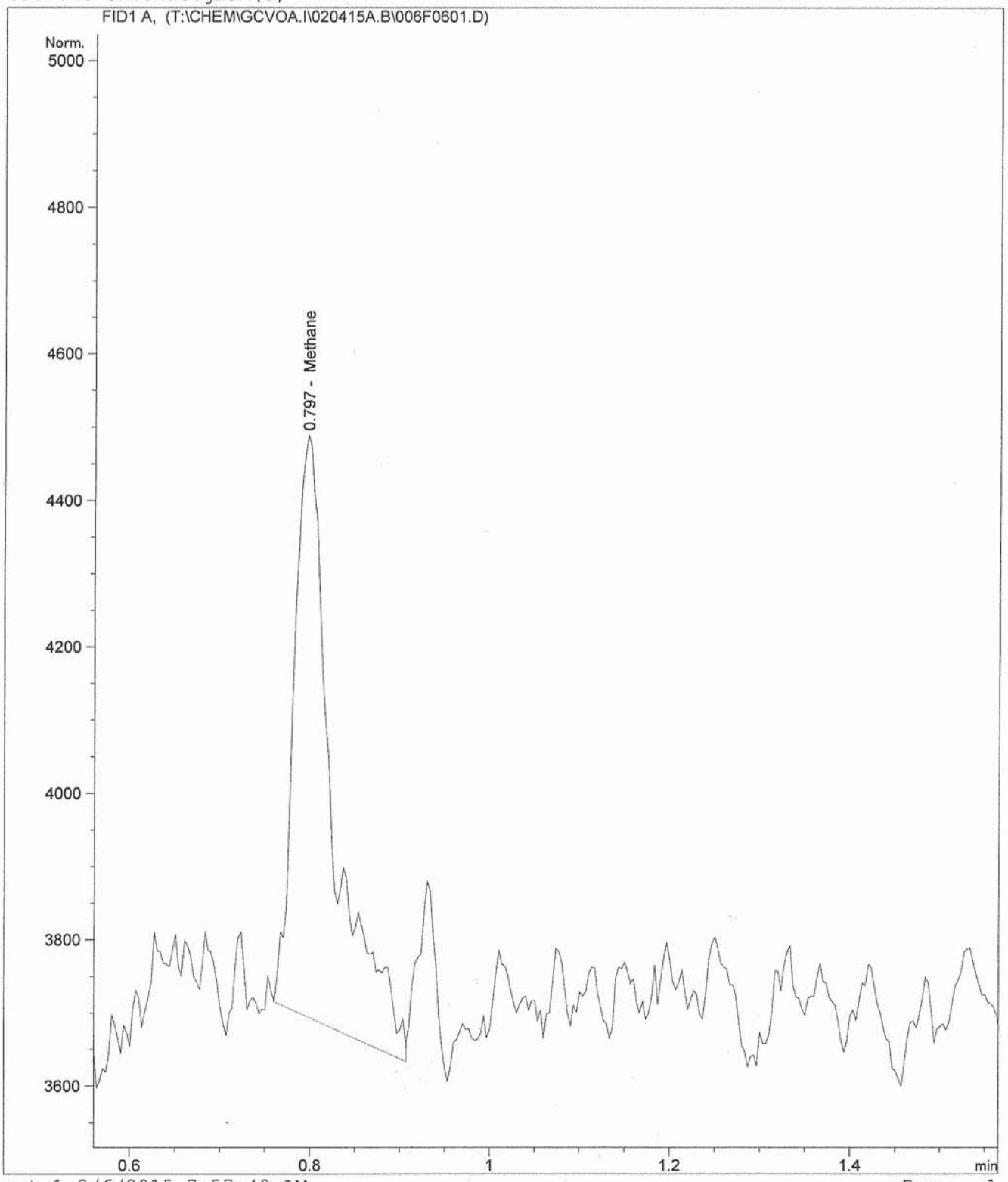
02/09/15

MS 2/6/15

Print of window 38: Current Chromatogram(s)
Data File : T:\CHEM\GCVOA.I\020415A.B\006F0601.D
Sample Name : 1501102-02

Acq. Operator	:	Seq. Line	: 6
Acq. Instrument	: GCVOA	Location	: Vial 6
Injection Date	: 2/4/2015 12:41:55 PM	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\HPCHEM\1\METHODS\MEE-FAST.M		
Last changed	: 2/4/2015 11:03:36 AM		
Analysis Method	: T:\CHEM\GCVOA.I\020415A.B\113014MEE.M		
Last changed	: 2/6/2015 7:55:33 AM		

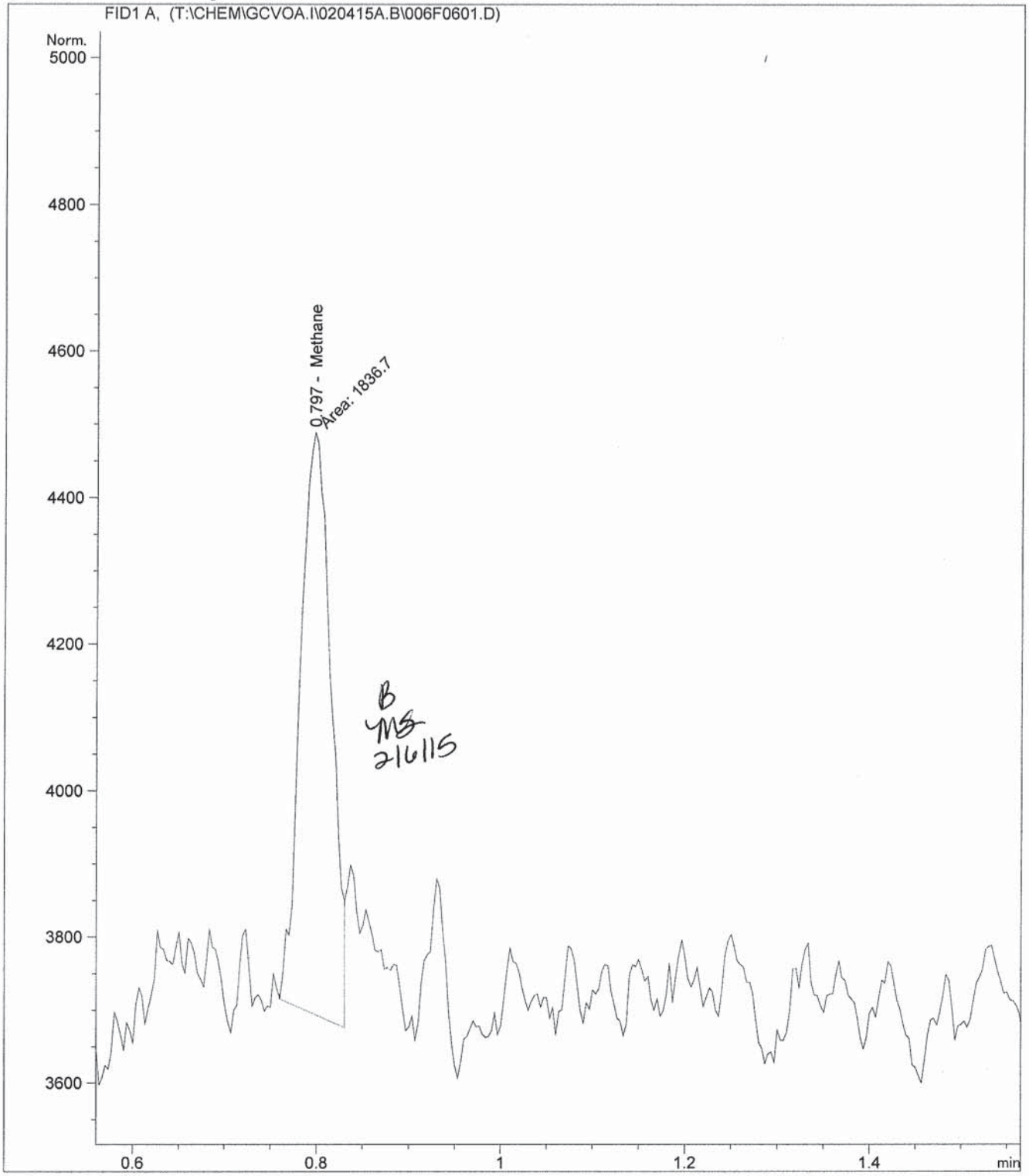
Current Chromatogram(s)



Print of window 38: Current Chromatogram(s)
Data File : T:\CHEM\GCVOA.I\020415A.B\006F0601.D
Sample Name : 1501102-02

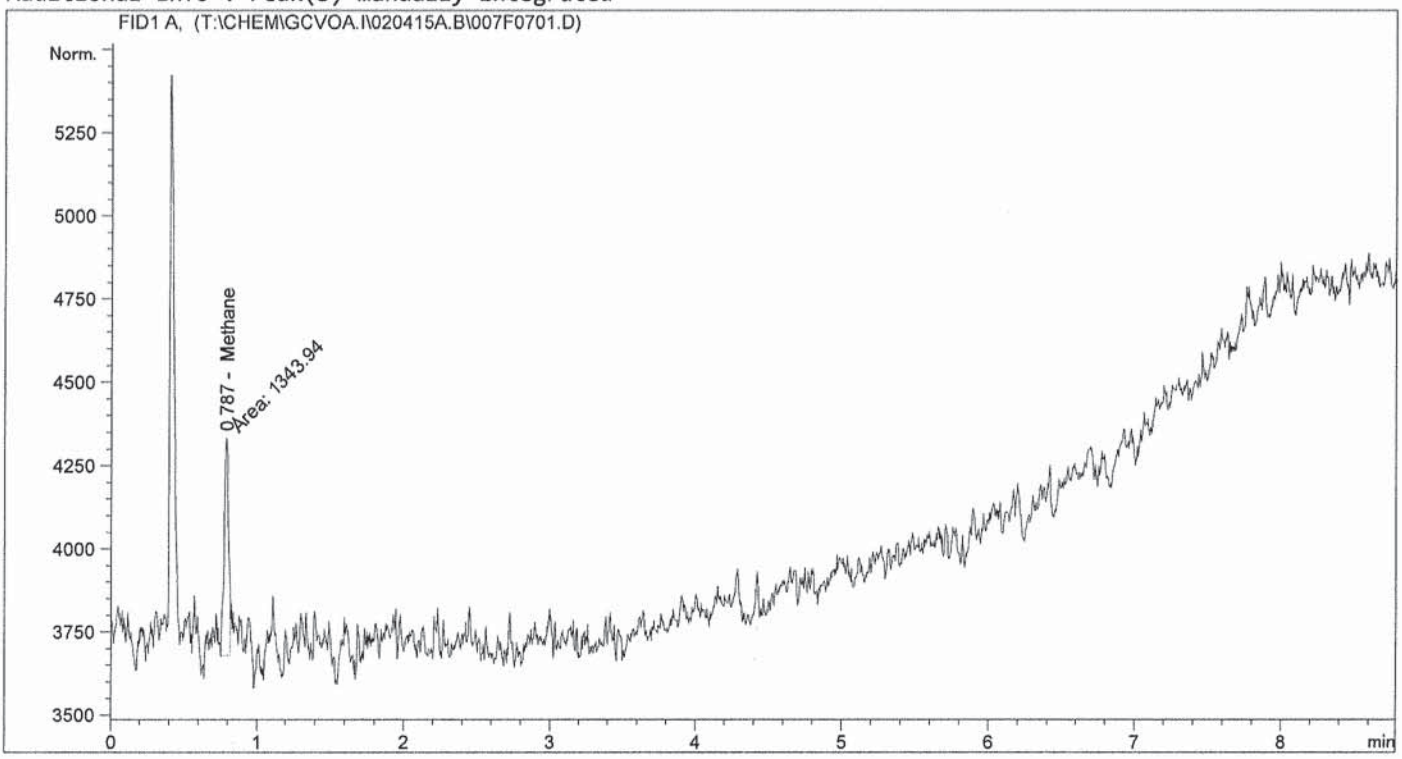
Acq. Operator	:	Seq. Line	: 6
Acq. Instrument	: GCVOA	Location	: Vial 6
Injection Date	: 2/4/2015 12:41:55 PM	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\HPCHEM\1\METHODS\MEE-FAST.M		
Last changed	: 2/4/2015 11:03:36 AM		
Analysis Method	: T:\CHEM\GCVOA.I\020415A.B\113014MEE.M		
Last changed	: 2/6/2015 7:55:33 AM		
Additional Info	: Peak(s) manually integrated		

Current Chromatogram(s)



Data File T:\CHEM\GCVOA.I\020415A.B\007F0701.D
Sample Name: 1501102-04

```
======================================================================
Acq. Operator   :                          Seq. Line :   7
Acq. Instrument : GCVOA                     Location : Vial 7
Injection Date  : 2/4/2015 12:55:30 PM           Inj :   1
                                          Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
Additional Info : Peak(s) manually integrated
```




```
======================================================================
                    External Standard Report
======================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.787 MF   +  1343.93848    0.00000    0.00000-   Methane
  5.921            -           -          -     -   Ethene
  6.727            -           -          -     -   Ethane

Totals :                                  0.00000


3 Warnings or Errors :
```

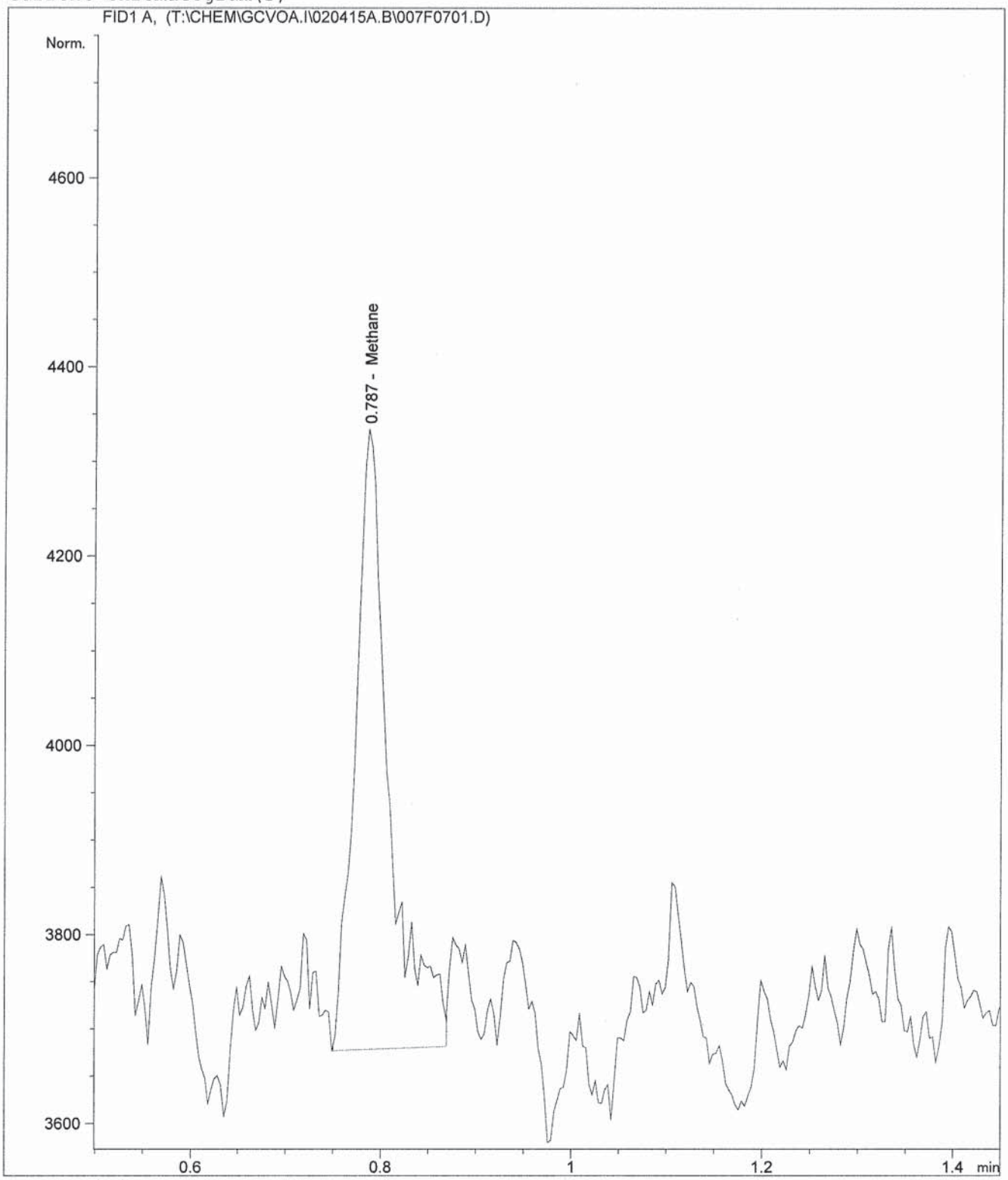
02/09/15

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Print of window 38: Current Chromatogram(s)
Data File : T:\CHEM\GCVOA.I\020415A.B\007F0701.D
Sample Name : 1501102-04

Acq. Operator	:	Seq. Line	: 7
Acq. Instrument	: GCVOA	Location	: Vial 7
Injection Date	: 2/4/2015 12:55:30 PM	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\HPCHEM\1\METHODS\MEE-FAST.M		
Last changed	: 2/4/2015 11:03:36 AM		
Analysis Method	: T:\CHEM\GCVOA.I\020415A.B\113014MEE.M		
Last changed	: 2/6/2015 7:55:33 AM		

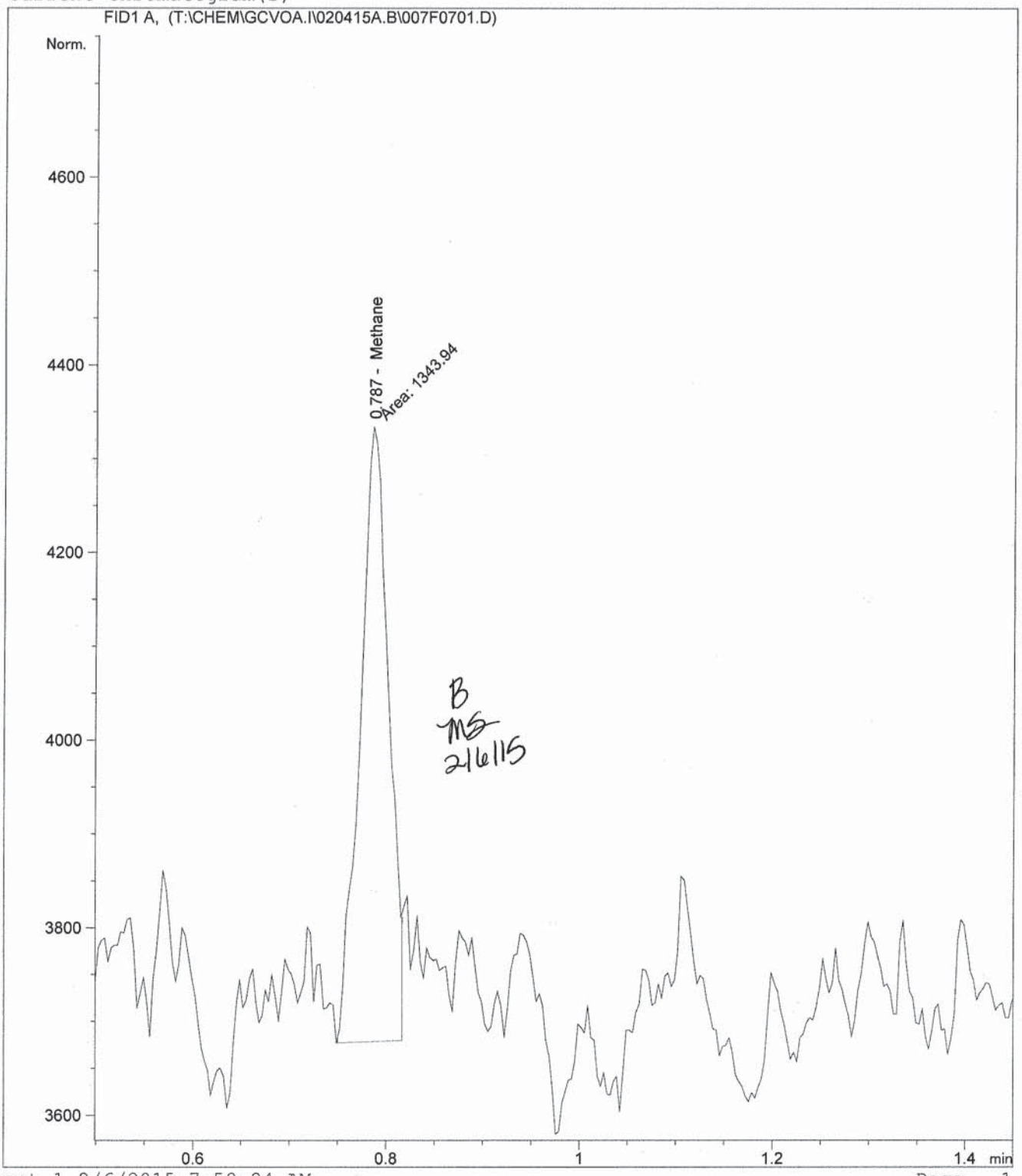
Current Chromatogram(s)



Print of window 38: Current Chromatogram(s)
Data File : T:\CHEM\GCVOA.I\020415A.B\007F0701.D
Sample Name : 1501102-04

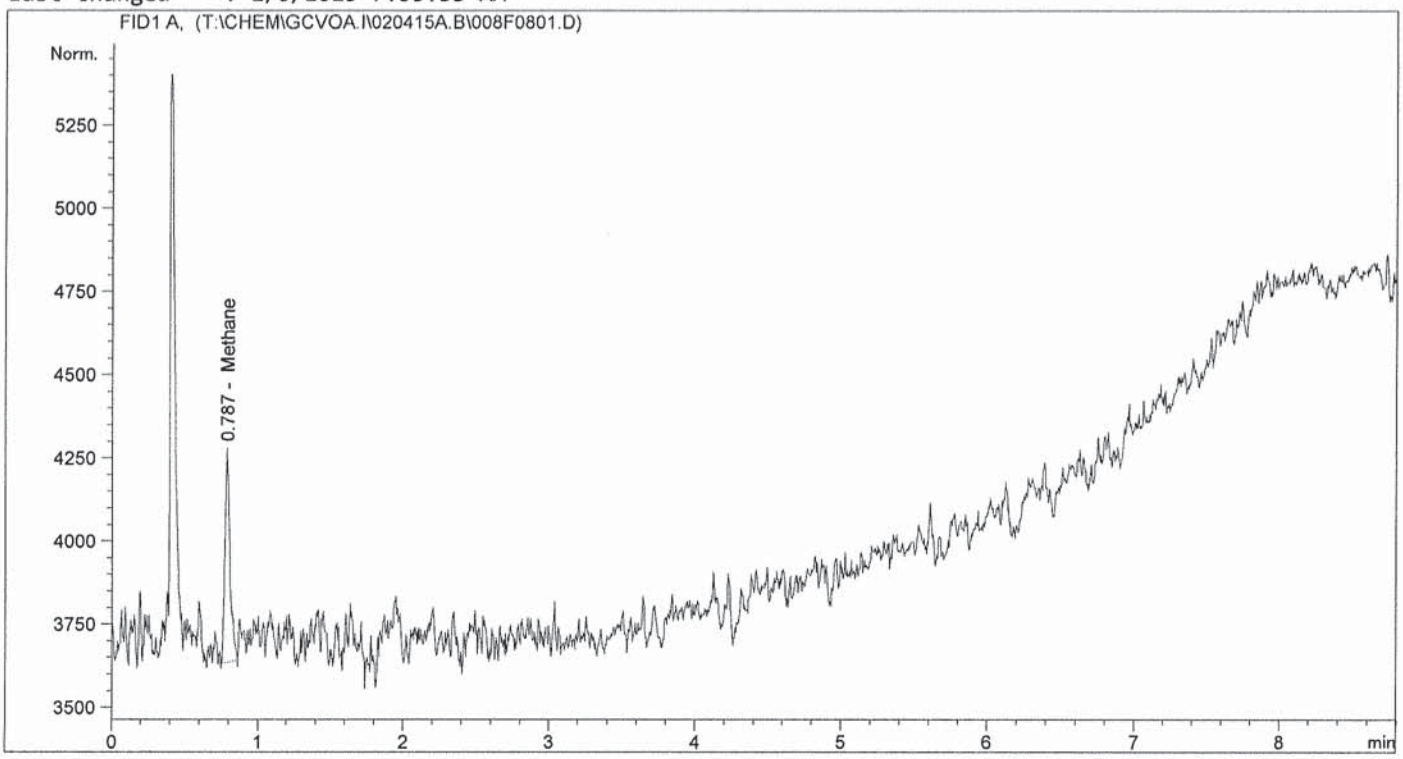
Acq. Operator	:	Seq. Line	: 7
Acq. Instrument	: GCVOA	Location	: Vial 7
Injection Date	: 2/4/2015 12:55:30 PM	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\HPCHEM\1\METHODS\MEE-FAST.M		
Last changed	: 2/4/2015 11:03:36 AM		
Analysis Method	: T:\CHEM\GCVOA.I\020415A.B\113014MEE.M		
Last changed	: 2/6/2015 7:55:33 AM		
Additional Info	: Peak(s) manually integrated		

Current Chromatogram(s)



Data File T:\CHEM\GCVOA.I\020415A.B\008F0801.D
Sample Name: 1501102-05

```
==========================================================================
Acq. Operator   :                                Seq. Line :   8
Acq. Instrument : GCVOA                           Location : Vial 8
Injection Date  : 2/4/2015 1:09:06 PM                 Inj :   1
                                                 Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                 [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.787 BB   +  1530.89294    0.00000    0.00000-   Methane
  5.921             -           -          -     -   Ethene
  6.727             -           -          -     -   Ethane

Totals :                                   0.00000

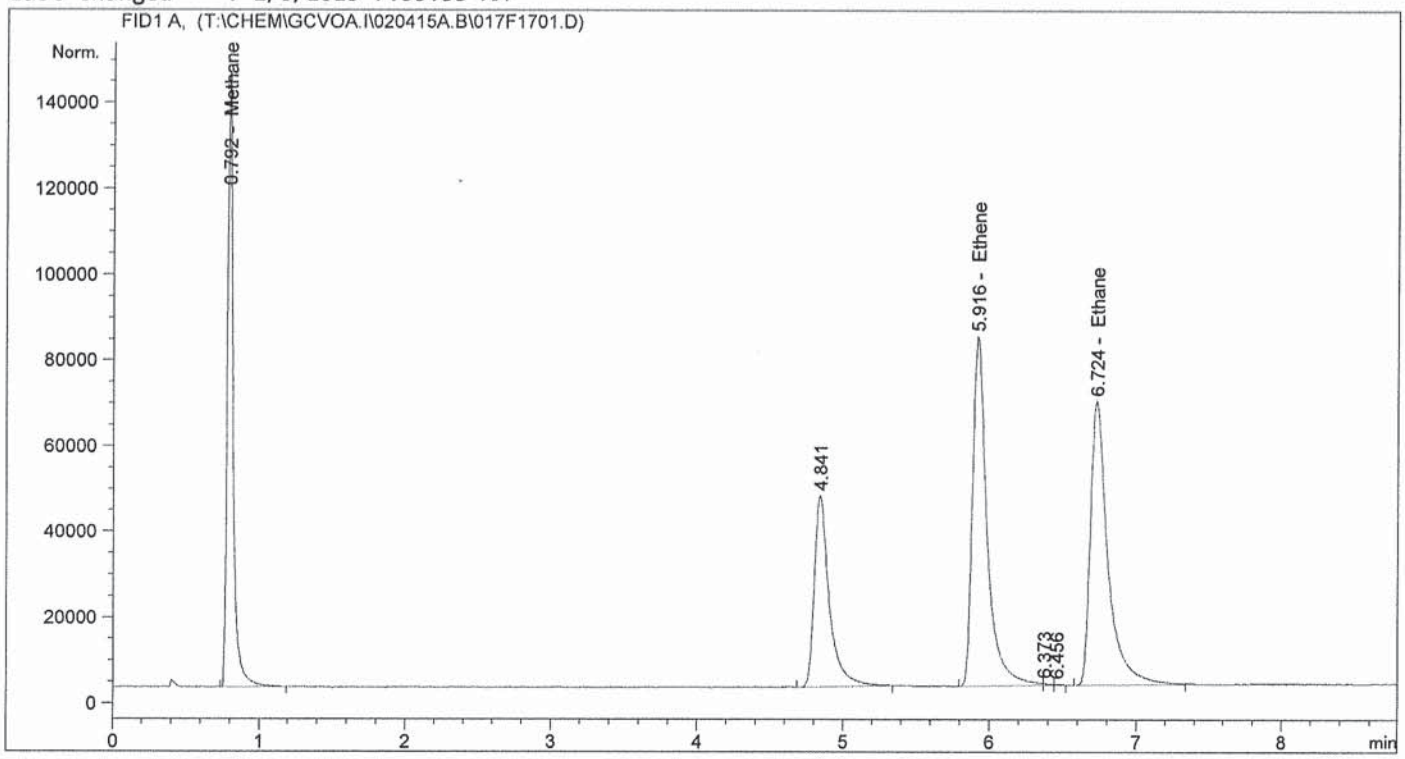

3 Warnings or Errors :
```

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YMS 2/6/15

Data File T:\CHEM\GCVOA.I\020415A.B\017F1701.D
Sample Name: SEQ-CCV2

```
==========================================================================
Acq. Operator   :                                Seq. Line :  17
Acq. Instrument : GCVOA                           Location : Vial 17
Injection Date  : 2/4/2015 3:11:15 PM                 Inj :   1
                                                 Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.792 BBA +  3.94075e5  2.51492e-6 9.91067e-1    Methane
  5.916 BV  +  5.67743e5  1.91160e-6    1.08530    Ethene
  6.724 BV  +  5.55950e5  1.81649e-6    1.00988    Ethane

Totals :                                3.08624


==========================================================================
                          *** End of Report ***
```

MS 2/6/15

02/09/15

PREPARATION BENCH SHEET

5B04002

Empirical Laboratories, LLC **Printed: 2/9/2015 2:41:57PM**

Instrument:

Matrix: Water **Prepared using: GCLC - RSK175** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID		ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
1501102-01	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501102-02	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501102-04	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501102-05	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501104-01	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501104-02	J	VGC_RSK175_MEE	02/04/2015	15	15							MS/MSD;;
1501104-03	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501104-04	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501104-05	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501116-02	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501116-03	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501116-04	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501116-05	D	VGC_RSK175_MEE	02/04/2015	15	15							MS/MSD;MS/MSD;MS/MSD
1501116-06	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501116-07	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501124-03	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501124-04	D	VGC_RSK175_MEE	02/04/2015	15	15							;;

PREPARATION BENCH SHEET

5B04002

Empirical Laboratories, LLC **Printed: 2/9/2015 2:41:57PM**

Instrument:

Matrix: Water **Prepared using: GCLC - RSK175** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
1501124-05	D	VGC_RSK175_MEE	02/04/2015	15	15						;;
1501134-03	E	VGC_RSK175_MEE	02/04/2015	15	15						;;
5B04002-BLK1		QC	02/04/2015	15	15					NA	
5B04002-BS1		QC	02/04/2015	15	15	13K0238		500		NA	
5B04002-MS1		QC	02/04/2015	15	15	13K0238	1501104-02	500		NA	
5B04002-MS2		QC	02/04/2015	15	15	13K0238	1501116-05	500		NA	
5B04002-MSD1		QC	02/04/2015	15	15	13K0238	1501104-02	500		NA	
5B04002-MSD2		QC	02/04/2015	15	15	13K0238	1501116-05	500		NA	

Reagents Used:

Standard	Description

Data for Wet Chemistry Forms

Sample Extraction Data

Prep Method: WC_PREP_ANIONS_W-SW9056A

Lab Number [Field ID]	Batch	Nominal Initial/Final	Initial [mL]	Final [mL]	Dilution	% Solids	Notes	Date
1501102-01 [13MW3]	5A27016	5.00/5.00	5.00	5.00	1.00			01/27/15
1501102-02 [49MW04]	5A27016	5.00/5.00	5.00	5.00	1.00			01/27/15
1501102-04 [13MW2]	5A27016	5.00/5.00	5.00	5.00	1.00			01/27/15
1501102-05 [13MW4]	5A27016	5.00/5.00	5.00	5.00	1.00			01/27/15

Sample Extraction Data

Prep Method: pNone-SW9060A

Lab Number [Field ID]	Batch	Nominal Initial/Final	Initial [mL]	Final [mL]	Dilution	% Solids	Notes	Date
1501102-01 [13MW3]	5A27017	40.00/40.00	40.0	40.0	1.00			01/27/15
1501102-02 [49MW04]	5A27017	40.00/40.00	40.0	40.0	1.00			01/27/15
1501102-04 [13MW2]	5A27017	40.00/40.00	40.0	40.0	1.00			01/27/15
1501102-05 [13MW4]	5A27017	40.00/40.00	40.0	40.0	1.00			01/27/15

Sample Extraction Data

Prep Method: WC_PREP_ANIONS_W-SW9056A

Lab Number [Field ID]	Batch	Nominal Initial/Final	Initial [mL]	Final [mL]	Dilution	% Solids	Notes	Date
1501102-04RE1 [13MW2]	5B03415	5.00/5.00	5.00	5.00	1.00			02/03/15

ANALYSIS DATA SHEET

13MW3

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
Sampled: 01/26/15 09:25

SDG: 1501102
Project: Radford AAP
Laboratory ID: 1501102-01
Received: 01/27/15 08:45

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
16887-00-6	Chloride	**3.88**	**0.170**	0.330	0.500	1		SW9056A	5A27016	01/27/15 19:14
14797-55-8	Nitrate as N	**1.66**	**0.0330**	0.100	0.250	1		SW9056A	5A27016	01/27/15 19:14
14808-79-8	Sulfate as SO4	**126**	**0.330**	1.00	2.50	1		SW9056A	5A27016	01/27/15 19:14
7440-44-0	Total Organic Carbon AVG		1.25	2.50	3.00	1	U	SW9060A	5A27017	01/27/15 17:41

ANALYSIS DATA SHEET

49MW04

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
Sampled: 01/26/15 09:35

SDG: 1501102
Project: Radford AAP
Laboratory ID: 1501102-02
Received: 01/27/15 08:45

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
16887-00-6	Chloride	**5.16**	**0.170**	0.330	0.500	1		SW9056A	5A27016	01/27/15 19:32
14797-55-8	Nitrate as N	**0.249**	**0.0330**	0.100	0.250	1	J	SW9056A	5A27016	01/27/15 19:32
14808-79-8	Sulfate as SO4	**53.6**	**0.330**	1.00	2.50	1		SW9056A	5A27016	01/27/15 19:32
7440-44-0	Total Organic Carbon AVG		1.25	2.50	3.00	1	U	SW9060A	5A27017	01/27/15 18:03

ANALYSIS DATA SHEET

13MW2

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
Sampled: 01/26/15 11:10

SDG: 1501102
Project: Radford AAP
Laboratory ID: 1501102-04
Received: 01/27/15 08:45

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
16887-00-6	Chloride	**2.75**	**0.170**	0.330	0.500	1		SW9056A	5B03415	02/03/15 15:42
14797-55-8	Nitrate as N	**0.0715**	**0.0330**	0.100	0.250	1	J	SW9056A	5A27016	01/27/15 19:50
14808-79-8	Sulfate as SO4	**45.9**	**0.330**	1.00	2.50	1		SW9056A	5A27016	01/27/15 19:50
7440-44-0	Total Organic Carbon AVG		1.25	2.50	3.00	1	U	SW9060A	5A27017	01/27/15 18:26

ANALYSIS DATA SHEET

13MW4

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
Sampled: 01/26/15 11:20

SDG: 1501102
Project: Radford AAP
Laboratory ID: 1501102-05
Received: 01/27/15 08:45

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
16887-00-6	Chloride	**11.5**	**0.170**	0.330	0.500	1		SW9056A	5A27016	01/27/15 20:07
14797-55-8	Nitrate as N		0.0330	0.100	0.250	1	U	SW9056A	5A27016	01/27/15 20:07
14808-79-8	Sulfate as SO4	**23.8**	**0.330**	1.00	2.50	1		SW9056A	5A27016	01/27/15 20:07
7440-44-0	Total Organic Carbon AVG		1.25	2.50	3.00	1	U	SW9060A	5A27017	01/27/15 18:49

ANALYSIS DATA SHEET

Blank

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
% Solids:

SDG: 1501102
Project: Radford AAP
Laboratory ID: 5A27016-BLK1

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
16887-00-6	Chloride	**0.384**	**0.170**	0.330	0.500	1	J	SW9056A	5A27016	01/27/15 15:36
14797-55-8	Nitrate as N	ND	0.0330	0.100	0.250	1	U	SW9056A	5A27016	01/27/15 15:36
14808-79-8	Sulfate as SO4	ND	0.330	1.00	2.50	1	U	SW9056A	5A27016	01/27/15 15:36

ANALYSIS DATA SHEET

LCS

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
% Solids:

SDG: 1501102
Project: Radford AAP
Laboratory ID: 5A27016-BS1

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
16887-00-6	Chloride	**4.657**	**0.170**	0.330	0.500	1		SW9056A	5A27016	01/27/15 15:58
14797-55-8	Nitrate as N	**3.119**	**0.0330**	0.100	0.250	1		SW9056A	5A27016	01/27/15 15:58
14808-79-8	Sulfate as SO4	**22.51**	**0.330**	1.00	2.50	1		SW9056A	5A27016	01/27/15 15:58

ANALYSIS DATA SHEET

Blank

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
% Solids:

SDG: 1501102
Project: Radford AAP
Laboratory ID: 5A27017-BLK1

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-44-0	Total Organic Carbon AVG	ND	1.25	2.50	3.00	1	U	SW9060A	5A27017	01/27/15 16:14

ANALYSIS DATA SHEET

LCS

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
% Solids:

SDG: 1501102
Project: Radford AAP
Laboratory ID: 5A27017-BS1

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-44-0	Total Organic Carbon AVG	**26.96**	**1.25**	2.50	3.00	1		SW9060A	5A27017	01/27/15 16:43

ANALYSIS DATA SHEET

Blank

Laboratory: Empirical Laboratories, LLC
SDG: 1501102
Client: CB&I
Project: Radford AAP
Matrix: Water
Laboratory ID: 5B03415-BLK1
% Solids:

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
16887-00-6	Chloride	ND	0.170	0.330	0.500	1	U	SW9056A	5B03415	02/03/15 12:08

ANALYSIS DATA SHEET

LCS

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
% Solids:

SDG: 1501102
Project: Radford AAP
Laboratory ID: 5B03415-BS1

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
16887-00-6	Chloride	**4.521**	**0.170**	0.330	0.500	1		SW9056A	5B03415	02/03/15 12:26

INITIAL AND CONTINUING CALIBRATION CHECK

SW9056A

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Instrument ID: WC-IC2

SDG: 1501102
Project: Radford AAP
Calibration: 4351002
Sequence: 4L35114

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
4L35114-ICV1	Chloride	4.200	4.198	100	mg/L	+/- 10.00%
	Nitrate as N	3.164	3.141	99.3	mg/L	+/- 10.00%
	Sulfate as SO4	21.00	22.77	108	mg/L	+/- 10.00%

INITIAL AND CONTINUING CALIBRATION CHECK

SW9060A

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Instrument ID: WC-TOC1

SDG: 1501102
Project: Radford AAP
Calibration: 5023004
Sequence: 5A02901

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
5A02901-CCV1	Total Organic Carbon AVG	25.00	25.94	104	mg/L	+/- 20.00%
5A02901-CCV2	Total Organic Carbon AVG	50.00	55.73	111	mg/L	+/- 20.00%

INITIAL AND CONTINUING CALIBRATION CHECK

SW9056A

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Instrument ID: WC-IC2

SDG: 1501102
Project: Radford AAP
Calibration: 4351002
Sequence: 5A03003

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
5A03003-CCV1	Chloride	25.00	25.58	102	mg/L	+/- 10.00%
	Nitrate as N	2.500	2.521	101	mg/L	+/- 10.00%
	Sulfate as SO4	25.00	26.65	107	mg/L	+/- 10.00%
5A03003-CCV2	Chloride	25.00	25.51	102	mg/L	+/- 10.00%
	Nitrate as N	2.500	2.475	99.0	mg/L	+/- 10.00%
	Sulfate as SO4	25.00	26.76	107	mg/L	+/- 10.00%
5A03003-CCV3	Chloride	25.00	25.70	103	mg/L	+/- 10.00%
	Nitrate as N	2.500	2.482	99.3	mg/L	+/- 10.00%
	Sulfate as SO4	25.00	26.35	105	mg/L	+/- 10.00%

INITIAL AND CONTINUING CALIBRATION CHECK

SW9056A

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Instrument ID: WC-IC2

SDG: 1501102
Project: Radford AAP
Calibration: 4351002
Sequence: 5B03604

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
5B03604-CCV1	Chloride	25.00	25.00	100	mg/L	+/- 10.00%
5B03604-CCV2	Chloride	25.00	25.12	100	mg/L	+/- 10.00%

CRDL STANDARD

SW9056A

Laboratory: Empirical Laboratories, LLC

SDG: 1501102

Client: CB&I

Project: Radford AAP

Instrument ID: WC-IC2

Calibration: 4351002

Sequence: 5A03003

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
5A03003-CRL1	Chloride	0.5000	0.5333	107	mg/L	50 - 150
	Nitrate as N	0.05000	0.04530	90.6	mg/L	50 - 150
	Sulfate as SO4	0.5000	0.5614	112	mg/L	50 - 150

CRDL STANDARD

SW9056A

Laboratory: Empirical Laboratories, LLC

SDG: 1501102

Client: CB&I

Project: Radford AAP

Instrument ID: WC-IC2

Calibration: 4351002

Sequence: 5B03604

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
5B03604-CRL1	Chloride	0.5000	0.5448	109	mg/L	50 - 150

METHOD BLANKS
SW9056A

Laboratory: Empirical Laboratories, LLC
SDG: 1501102
Client: CB&I
Project: Radford AAP
Batch: 5A27016

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
5A27016-BLK1	Chloride	0.384	0.170	0.500	mg/L	J	SW9056A
	Nitrate as N	0.00350	0.0330	0.250	mg/L	U	SW9056A
	Sulfate as SO4	0.0107	0.330	2.50	mg/L	U	SW9056A

METHOD BLANKS
SW9060A

Laboratory: Empirical Laboratories, LLC
SDG: 1501102
Client: CB&I
Project: Radford AAP
Batch: 5A27017

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
5A27017-BLK1	Total Organic Carbon AVG	0.182	1.25	3.00	mg/L	U	SW9060A

METHOD BLANKS

SW9056A

Laboratory: Empirical Laboratories, LLC

SDG: 1501102

Client: CB&I

Project: Radford AAP

Batch: 5B03415

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
5B03415-BLK1	Chloride	0.0258	0.170	0.500	mg/L	U	SW9056A

BLANKS
SW9060A

Laboratory: Empirical Laboratories, LLC
SDG: 1501102
Client: CB&I
Project: Radford AAP
Sequence: 5A02901
Calibration: 5023004
Instrument ID: WC-TOC1

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
5A02901-CCB1	Total Organic Carbon AVG	0.142	1.25	3.00	mg/L	U	SW9060A
5A02901-CCB2	Total Organic Carbon AVG	0.159	1.25	3.00	mg/L	U	SW9060A

BLANKS
SW9056A

Laboratory: Empirical Laboratories, LLC
SDG: 1501102
Client: CB&I
Project: Radford AAP
Sequence: 5A03003
Calibration: 4351002
Instrument ID: WC-IC2

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
5A03003-CCB1	Chloride	0.0187	0.170	0.500	mg/L	U	SW9056A
	Nitrate as N	0.00140	0.0330	0.250	mg/L	U	SW9056A
	Sulfate as SO4	0.0180	0.330	2.50	mg/L	U	SW9056A
5A03003-CCB2	Chloride	0.0177	0.170	0.500	mg/L	U	SW9056A
	Nitrate as N	0.000900	0.0330	0.250	mg/L	U	SW9056A
	Sulfate as SO4	0.105	0.330	2.50	mg/L	U	SW9056A
5A03003-CCB3	Chloride	0.0246	0.170	0.500	mg/L	U	SW9056A
	Nitrate as N	0.00140	0.0330	0.250	mg/L	U	SW9056A
	Sulfate as SO4	0.0346	0.330	2.50	mg/L	U	SW9056A

BLANKS
SW9056A

Laboratory: Empirical Laboratories, LLC
SDG: 1501102
Client: CB&I
Project: Radford AAP
Sequence: 5B03604
Calibration: 4351002
Instrument ID: WC-IC2

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
5B03604-CCB1	Chloride	0.0290	0.170	0.500	mg/L	U	SW9056A
5B03604-CCB2	Chloride	0.0231	0.170	0.500	mg/L	U	SW9056A

LCS / LCS DUPLICATE RECOVERY

SW9056A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501102
Client:	CB&I	Project:	Radford AAP
Matrix:	Water		
Batch:	5A27016	Laboratory ID:	5A27016-BS1
Preparation:	WC_PREP_ANIONS_W	Initial/Final:	5 mL / 5 mL

ANALYTE	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC.	QC LIMITS REC.
Chloride	4.200	4.657	111	80 - 120
Nitrate as N	3.164	3.119	98.6	80 - 120
Sulfate as SO4	21.00	22.51	107	80 - 120

LCS / LCS DUPLICATE RECOVERY

SW9060A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501102
Client:	CB&I	Project:	Radford AAP
Matrix:	Water		
Batch:	5A27017	Laboratory ID:	5A27017-BS1
Preparation:	pNone	Initial/Final:	40 mL / 40 mL

ANALYTE	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC.	QC LIMITS REC.
Total Organic Carbon AVG	25.00	26.96	108	80 - 120

LCS / LCS DUPLICATE RECOVERY

SW9056A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501102
Client:	CB&I	Project:	Radford AAP
Matrix:	Water		
Batch:	5B03415	Laboratory ID:	5B03415-BS1
Preparation:	WC_PREP_ANIONS_W	Initial/Final:	5 mL / 5 mL

ANALYTE	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC.	QC LIMITS REC.
Chloride	4.200	4.521	108	80 - 120

PREPARATION BATCH SUMMARY

SW9056A

Laboratory: Empirical Laboratories, LLC SDG: 1501102

Client: CB&I Project: Radford AAP

Batch: 5A27016 Batch Matrix: Water Preparation: WC_PREP_ANIONS_W

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
13MW3	1501102-01	01/27/15 13:29	5.00	5.00
49MW04	1501102-02	01/27/15 13:29	5.00	5.00
13MW2	1501102-04	01/27/15 13:29	5.00	5.00
13MW4	1501102-05	01/27/15 13:29	5.00	5.00
Blank	5A27016-BLK1	01/27/15 13:29	5.00	5.00
LCS	5A27016-BS1	01/27/15 13:29	5.00	5.00

PREPARATION BATCH SUMMARY

SW9060A

Laboratory: Empirical Laboratories, LLC SDG: 1501102

Client: CB&I Project: Radford AAP

Batch: 5A27017 Batch Matrix: Water Preparation: pNone

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
13MW3	1501102-01	01/27/15 14:21	40.00	40.00
49MW04	1501102-02	01/27/15 14:21	40.00	40.00
13MW2	1501102-04	01/27/15 14:21	40.00	40.00
13MW4	1501102-05	01/27/15 14:21	40.00	40.00
Blank	5A27017-BLK1	01/27/15 14:21	40.00	40.00
LCS	5A27017-BS1	01/27/15 14:21	40.00	40.00

PREPARATION BATCH SUMMARY

SW9056A

Laboratory: Empirical Laboratories, LLC
SDG: 1501102
Client: CB&I
Project: Radford AAP
Batch: 5B03415
Batch Matrix: Water
Preparation: WC_PREP_ANIONS_W

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
13MW2	1501102-04RE1	02/03/15 09:18	5.00	5.00
Blank	5B03415-BLK1	02/03/15 09:18	5.00	5.00
LCS	5B03415-BS1	02/03/15 09:18	5.00	5.00

ANALYSIS SEQUENCE SUMMARY

SW9056A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501102
Client:	CB&I	Project:	Radford AAP
Sequence:	4L35114	Instrument:	WC-IC2
Calibration:	4351002		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	4L35114-CAL1	SEQ-CAL1_Integration	12/16/14 09:47
Cal Standard	4L35114-CAL2	SEQ-CAL2_Integration	12/16/14 10:05
Cal Standard	4L35114-CAL3	SEQ-CAL3_Integration	12/16/14 10:23
Cal Standard	4L35114-CAL4	SEQ-CAL4_Integration	12/16/14 10:41
Cal Standard	4L35114-CAL5	SEQ-CAL5_Integration	12/16/14 10:59
Cal Standard	4L35114-CAL6	SEQ-CAL6_Integration	12/16/14 11:16
Cal Standard	4L35114-CAL7	SEQ-CAL7_Integration	12/16/14 11:34
Cal Standard	4L35114-CAL8	SEQ-CAL8_Integration	12/16/14 11:52
Initial Cal Check	4L35114-ICV1	SEQ-ICV1_Integration	12/16/14 13:43

ANALYSIS SEQUENCE SUMMARY

SW9060A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501102
Client:	CB&I	Project:	Radford AAP
Sequence:	5A02901	Instrument:	WC-TOC1
Calibration:	5023004		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	5A02901-CCV1	01-27-15Q	01/27/15 15:27
Calibration Blank	5A02901-CCB1	01-27-15Q	01/27/15 15:51
Blank	5A27017-BLK1	01-27-15Q	01/27/15 16:14
LCS	5A27017-BS1	01-27-15Q	01/27/15 16:43
13MW3	1501102-01	01-27-15Q	01/27/15 17:41
49MW04	1501102-02	01-27-15Q	01/27/15 18:03
13MW2	1501102-04	01-27-15Q	01/27/15 18:26
13MW4	1501102-05	01-27-15Q	01/27/15 18:49
Calibration Check	5A02901-CCV2	01-27-15Q	01/27/15 22:30
Calibration Blank	5A02901-CCB2	01-27-15Q	01/27/15 22:54

ANALYSIS SEQUENCE SUMMARY

SW9056A

Laboratory: Empirical Laboratories, LLC
SDG: 1501102
Client: CB&I
Project: Radford AAP
Sequence: 5A03003
Instrument: WC-IC2
Calibration: 4351002

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	5A03003-CCV1	SEQ-CCV1_Integration	01/27/15 14:07
Calibration Blank	5A03003-CCB1	SEQ-CCB1_Integration	01/27/15 14:25
Instrument RL Check	5A03003-CRL1	SEQ-CRL1_Integration	01/27/15 14:42
Blank	5A27016-BLK1	5A27016-BLK1_Integration	01/27/15 15:36
LCS	5A27016-BS1	5A27016-BS1_Integration	01/27/15 15:58
Calibration Check	5A03003-CCV2	SEQ-CCV2_Integration	01/27/15 18:38
Calibration Blank	5A03003-CCB2	SEQ-CCB2_Integration	01/27/15 18:56
13MW3	1501102-01	1501102-01_Integration	01/27/15 19:14
49MW04	1501102-02	1501102-02_Integration	01/27/15 19:32
13MW2	1501102-04	1501102-04_Integration	01/27/15 19:50
13MW4	1501102-05	1501102-05_Integration	01/27/15 20:07
Calibration Check	5A03003-CCV3	SEQ-CCV3_Integration	01/27/15 21:01
Calibration Blank	5A03003-CCB3	SEQ-CCB3_Integration	01/27/15 21:19

ANALYSIS SEQUENCE SUMMARY

SW9056A

Laboratory: Empirical Laboratories, LLC
SDG: 1501102
Client: CB&I
Project: Radford AAP
Sequence: 5B03604
Instrument: WC-IC2
Calibration: 4351002

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	5B03604-CCV1	SEQ-CCV1_Integration	02/03/15 10:38
Calibration Blank	5B03604-CCB1	SEQ-CCB1_Integration	02/03/15 10:56
Instrument RL Check	5B03604-CRL1	SEQ-CRL1_Integration	02/03/15 11:14
Blank	5B03415-BLK1	5B03415-BLK1_Integration	02/03/15 12:08
LCS	5B03415-BS1	5B03415-BS1_Integration	02/03/15 12:26
13MW2	1501102-04RE1	1501102-04RE1_Integration	02/03/15 15:42
Calibration Check	5B03604-CCV2	SEQ-CCV2_Integration	02/03/15 16:00
Calibration Blank	5B03604-CCB2	SEQ-CCB2_Integration	02/03/15 16:17

INITIAL CALIBRATION DATA

SW9056A

Laboratory: Empirical Laboratories, LLC
SDG: 1501102
Client: CB&I
Project: Radford AAP
Calibration: 4351002
Instrument: WC-IC2
Matrix: Water
Calibration Dates: 12/16/14 9:47 12/16/14 11:52

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Bromide	0.126	0.1085905	0.252	0.1108726	0.63	0.1180673	1.26	0.1237546	6.3	0.1299016	12.6	0.1302967
Chloride	0.5	0.3003194	1	0.2984897	2.5	0.3053954	5	0.3078736	25	0.3040147	50	0.3022272
Fluoride	0.05	0.489534	0.1	0.493946	0.25	0.5097388	0.5	0.5311596	2.5	0.5045864	5	0.4840282
Sulfate as SO4	0.5	0.209077	1	0.2078992	2.5	0.2136142	5	0.2170974	25	0.2157216	50	0.2141794
Nitrate as N	0.05	0.674878	0.1	0.666766	0.25	0.6984688	0.5	0.7243688	2.5	0.7440152	5	0.7440886
Nitrite as N	0.05	0.656516	0.1	0.664483	0.25	0.695526	0.5	0.7044518	2.5	0.6747124	5	0.6583138

INITIAL CALIBRATION DATA (Continued)

SW9056A

Laboratory: Empirical Laboratories, LLC
SDG: 1501102
Client: CB&I
Project: Radford AAP
Calibration: 4351002
Instrument: WC-IC2
Matrix: Water
Calibration Dates: 12/16/14 9:47 12/16/14 11:52

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Bromide	31.5	0.1283104	63	~~0.110431~~								
Chloride	125	0.301513	250	0.3010025								
Fluoride	12.5	~~0.4445155~~	25	~~0.4043972~~								
Sulfate as SO4	125	0.2117641	250	0.1998974								
Nitrate as N	12.5	0.7445325	25	0.7354732								
Nitrite as N	12.5	~~0.6231667~~	25	~~0.5849232~~								

INITIAL CALIBRATION DATA (Continued)

SW9056A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501102
Client:	CB&I	Project:	Radford AAP
Calibration:	4351002	Instrument:	WC-IC2
Matrix:	Water	Calibration Dates:	12/16/14 9:47 12/16/14 11:52

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Bromide	0.1213991	7.449655	8.731428	0.6244358	0.9999458		0.995	
Chloride	0.3026044	0.9960588	4.981625	0.3698484	0.9999975		0.995	
Fluoride	0.5021655	3.402805	3.305333	0.1072065	0.9994431		0.995	
Sulfate as SO4	0.2111563	2.614724	9.39875	2.737571	0.9990053		0.995	
Nitrate as N	0.7165739	4.493295	10.39125	1.665896	0.9999603		0.995	
Nitrite as N	0.6756672	2.972466	6.139833	5.826773E-02	0.9997826		0.995	

Per current DoD QSM requirements, effective 03/17/2014, Empirical has updated the linear calibration coefficient requirements to reflect a limit of 0.990 for "r2" rather than the previously reported limit of 0.995 for "r". The change in assessment criteria is consistent with regulatory requirements.

INITIAL CALIBRATION DATA

SW9060A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501102	
Client:	CB&I	Project:	Radford AAP	
Calibration:	5023004	Instrument:	WC-TOC1	
Matrix:	Water	Calibration Dates:	1/19/15 11:53	1/19/15 14:37

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Total Organic Carbon	0	0	1	11.73	2.5	10.716	5	10.326	10	10.82	25	10.928

INITIAL CALIBRATION DATA (Continued)

SW9060A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501102	
Client:	CB&I	Project:	Radford AAP	
Calibration:	5023004	Instrument:	WC-TOC1	
Matrix:	Water	Calibration Dates:	1/19/15 11:53	1/19/15 14:37

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Total Organic Carbon	50	11.194	100	11.59								

INITIAL CALIBRATION DATA (Continued)

SW9060A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501102
Client:	CB&I	Project:	Radford AAP
Calibration:	5023004	Instrument:	WC-TOC1
Matrix:	Water	Calibration Dates:	1/19/15 11:53 1/19/15 14:37

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Total Organic Carbon	9.663	40.68495			0.9996185		0.99	

Per current DoD QSM requirements, effective 03/17/2014, Empirical has updated the linear calibration coefficient requirements to reflect a limit of 0.990 for "r2" rather than the previously reported limit of 0.995 for "r". The change in assessment criteria is consistent with regulatory requirements.

HOLDING TIME SUMMARY

SW9056A

Laboratory: Empirical Laboratories, LLC SDG: 1501102

Client: CB&I Project: Radford AAP

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
13MW3	01/26/15 09:25	01/27/15 08:45	01/27/15 13:29	N/A	28.00	01/27/15 19:14	1.45	28.00	
13MW3	01/26/15 09:25	01/27/15 08:45	01/27/15 13:29	N/A	2.00	01/27/15 19:14	1.45	2.00	
49MW04	01/26/15 09:35	01/27/15 08:45	01/27/15 13:29	N/A	28.00	01/27/15 19:32	1.46	28.00	
49MW04	01/26/15 09:35	01/27/15 08:45	01/27/15 13:29	N/A	2.00	01/27/15 19:32	1.46	2.00	
13MW2	01/26/15 11:10	01/27/15 08:45	01/27/15 13:29	N/A	28.00	01/27/15 19:50	1.40	28.00	
13MW2	01/26/15 11:10	01/27/15 08:45	01/27/15 13:29	N/A	2.00	01/27/15 19:50	1.40	2.00	
13MW2	01/26/15 11:10	01/27/15 08:45	02/03/15 09:18	N/A	28.00	02/03/15 15:42	8.23	28.00	
13MW4	01/26/15 11:20	01/27/15 08:45	01/27/15 13:29	N/A	28.00	01/27/15 20:07	1.41	28.00	
13MW4	01/26/15 11:20	01/27/15 08:45	01/27/15 13:29	N/A	2.00	01/27/15 20:07	1.41	2.00	

HOLDING TIME SUMMARY

SW9060A

Laboratory: Empirical Laboratories, LLC SDG: 1501102

Client: CB&I Project: Radford AAP

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
13MW3	01/26/15 09:25	01/27/15 08:45	01/27/15 14:21	N/A	28.00	01/27/15 17:41	1.39	28.00	
49MW04	01/26/15 09:35	01/27/15 08:45	01/27/15 14:21	N/A	28.00	01/27/15 18:03	1.40	28.00	
13MW2	01/26/15 11:10	01/27/15 08:45	01/27/15 14:21	N/A	28.00	01/27/15 18:26	1.35	28.00	
13MW4	01/26/15 11:20	01/27/15 08:45	01/27/15 14:21	N/A	28.00	01/27/15 18:49	1.35	28.00	

Data for Wet Chemistry Supporting Raw Data / Logs

19 72
M
12-D-1

Sequence Overview

Sequence Details

Name:	**121614**	*Created On:*	**26/Mar/14 13:54:45**
Directory:	**Instrument Data_ICS-2100\2014\Dec2014**	*Created By:*	**Thermo Elctron NA**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**18/Dec/14 11:08:29**
No. of Injections:	**11**	*Updated By:*	**NSH-IONC2**

Injection Details

No.	Injection Name	Position	Type	Level	Inject Time	Status
1	blank	1	Unknown		16/Dec/14 09:11:51	Finished
2	blank	2	Unknown		16/Dec/14 09:29:57	Finished
3	SEQ-CAL1 ML0464	3	Calibration Standard	01	16/Dec/14 09:47:47	Finished
4	SEQ-CAL2 ML0465	4	Calibration Standard	02	16/Dec/14 10:05:37	Finished
5	SEQ-CAL3 ML0466	5	Calibration Standard	03	16/Dec/14 10:23:27	Finished
6	SEQ-CAL4 ML0467	6	Calibration Standard	04	16/Dec/14 10:41:17	Finished
7	SEQ-CAL5 ML0468	7	Calibration Standard	05	16/Dec/14 10:59:07	Finished
8	SEQ-CAL6 ML0469	8	Calibration Standard	06	16/Dec/14 11:16:58	Finished
9	SEQ-CAL7 ML0470	9	Calibration Standard	07	16/Dec/14 11:34:48	Finished
10	SEQ-CAL8 ML0471	10	Calibration Standard	08	16/Dec/14 11:52:39	Finished
11	blank	11	Unknown		16/Dec/14 12:10:29	Finished

Sequence Overview

Sequence Details

Name:	**121614A**	*Created On:*	**26/Mar/14 13:54:45**
Directory:	**Instrument Data_ICS-2100\2014\Dec2014**	*Created By:*	**Thermo Elctron NA**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**18/Dec/14 11:10:58**
No. of Injections:	**20**	*Updated By:*	**NSH-IONC2**

Injection Details

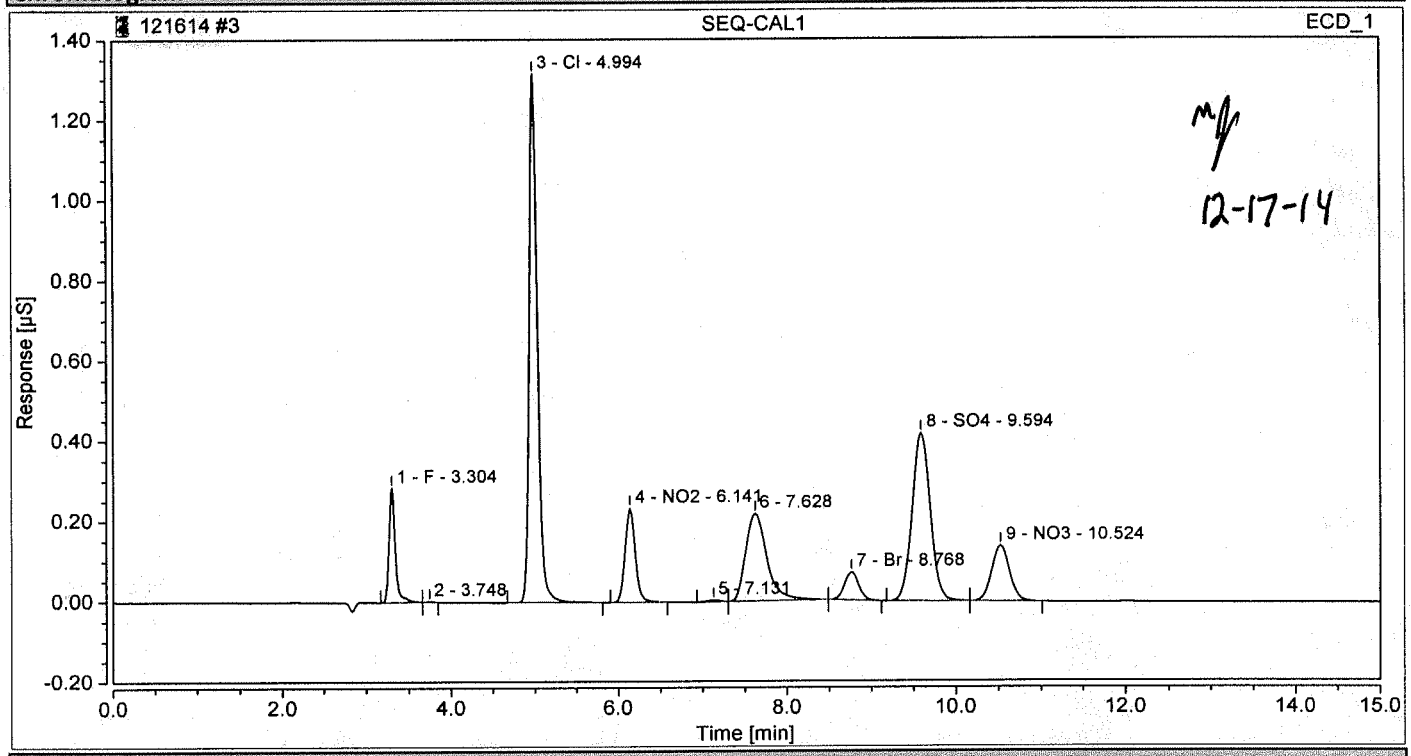
No.	Injection Name	Position	Type	Level	Inject Time	Status
1	BLANK	1	Unknown		16/Dec/14 13:01:07	Finished
2	BLANK	2	Unknown		16/Dec/14 13:20:03	Finished
3	SEQ-ICV1 4L0395	3	Unknown		16/Dec/14 13:43:39	Finished
4	SEQ-CCV1	4	Unknown		16/Dec/14 14:09:16	Finished
5	SEQ-CCB1	5	Unknown		16/Dec/14 14:27:15	Finished
6	SEQ-CRL1	6	Unknown		16/Dec/14 14:45:05	Finished
7	SEQ-CRL2	7	Unknown		16/Dec/14 15:02:55	Finished
8	SEQ-CRL3	8	Unknown		16/Dec/14 15:20:45	Finished
9	4L16013-BLK1	9	Unknown		16/Dec/14 15:38:35	Finished
10	4L16013-BS1	10	Unknown		16/Dec/14 15:56:25	Finished
11	1412171-01	11	Unknown		16/Dec/14 16:14:15	Finished
12	1412171-02	12	Unknown		16/Dec/14 16:32:06	Finished
13	1412172-01@50X	13	Unknown		16/Dec/14 16:52:13	Finished
14	1412019-03RE1	14	Unknown		16/Dec/14 17:10:05	Finished
15	1412019-04RE1	15	Unknown		16/Dec/14 17:27:55	Finished
16	1412019-07RE1	16	Unknown		16/Dec/14 17:45:45	Finished
17	1412019-08RE1	17	Unknown		16/Dec/14 18:03:36	Finished
18	SEQ-CCV2	18	Unknown		16/Dec/14 18:21:26	Finished
19	SEQ-CCB2	19	Unknown		16/Dec/14 18:39:16	Finished
20	BLANK	20	Unknown		16/Dec/14 18:57:07	Finished

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL1**	*Run Time (min):*	**15.00**
Vial Number:	**3**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**01**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 09:47**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.304	0.0244767	0.284	5.78	10.59	0.0501
2		3.748	0.0001516	0.002	0.04	0.07	n.a.
3	Cl	4.994	0.1501597	1.316	35.43	49.03	0.4986
4	NO2	6.141	0.0328258	0.234	7.75	8.72	0.0496
5		7.131	0.0007163	0.004	0.17	0.16	n.a.
6		7.628	0.0635233	0.218	14.99	8.10	n.a.
7	Br	8.768	0.0136824	0.070	3.23	2.59	0.1064
8	SO4	9.594	0.1045385	0.418	24.67	15.58	0.5156
9	NO3	10.524	0.0337439	0.139	7.96	5.16	0.0458
Total:			**0.424**	**2.685**	**100.00**	**100.00**	

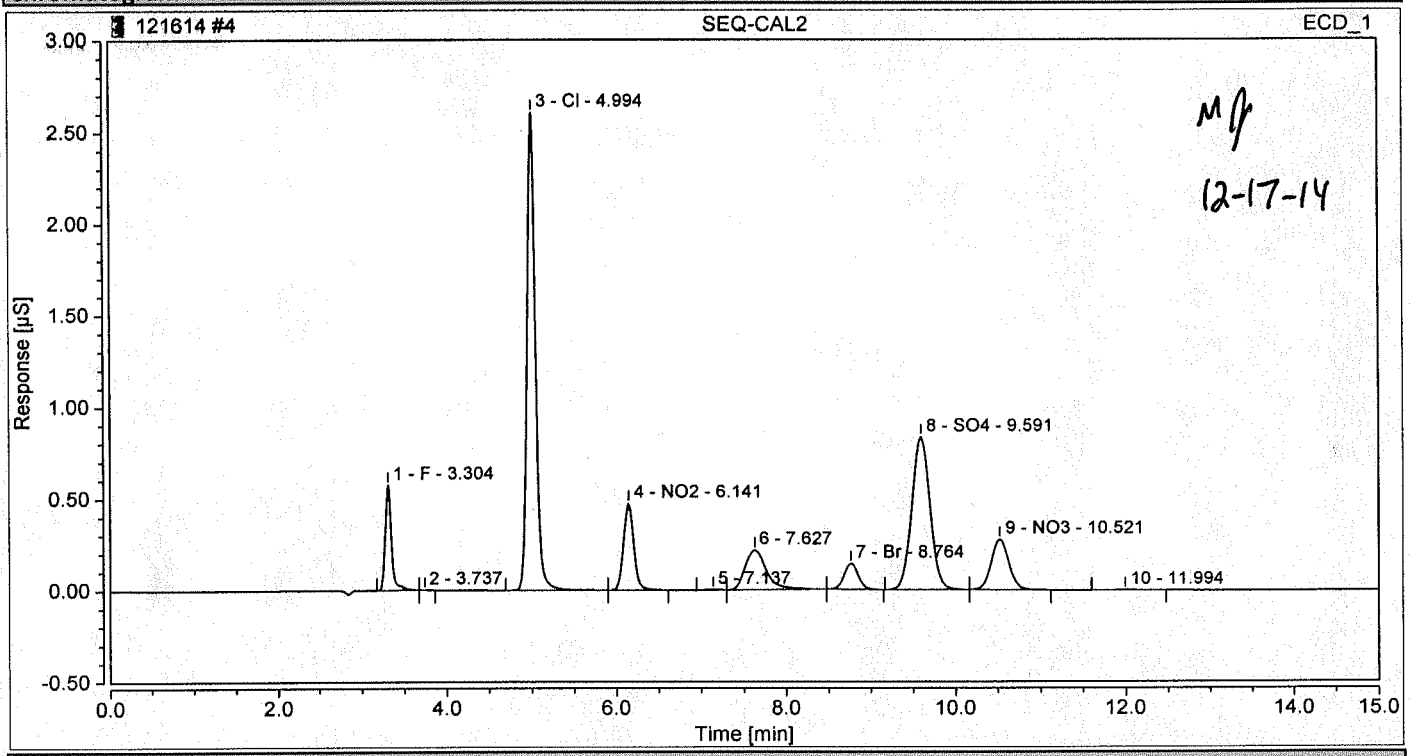
12.18.14

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL2**	*Run Time (min):*	**15.00**
Vial Number:	**4**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**02**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 10:05**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.304	0.0493946	0.575	6.32	11.21	0.1011
2		3.737	0.0001163	0.001	0.01	0.02	n.a.
3	Cl	4.994	0.2984897	2.607	38.21	50.84	0.9911
4	NO2	6.141	0.0664483	0.474	8.51	9.24	0.1004
5		7.137	0.0005280	0.003	0.07	0.06	n.a.
6		7.627	0.0631616	0.216	8.08	4.22	n.a.
7	Br	8.764	0.0279399	0.142	3.58	2.77	0.2172
8	SO4	9.591	0.2078992	0.833	26.61	16.24	1.0254
9	NO3	10.521	0.0666766	0.275	8.53	5.37	0.0904
10		11.994	0.0005919	0.002	0.08	0.03	n.a.
Total:			**0.781**	**5.128**	**100.00**	**100.00**	

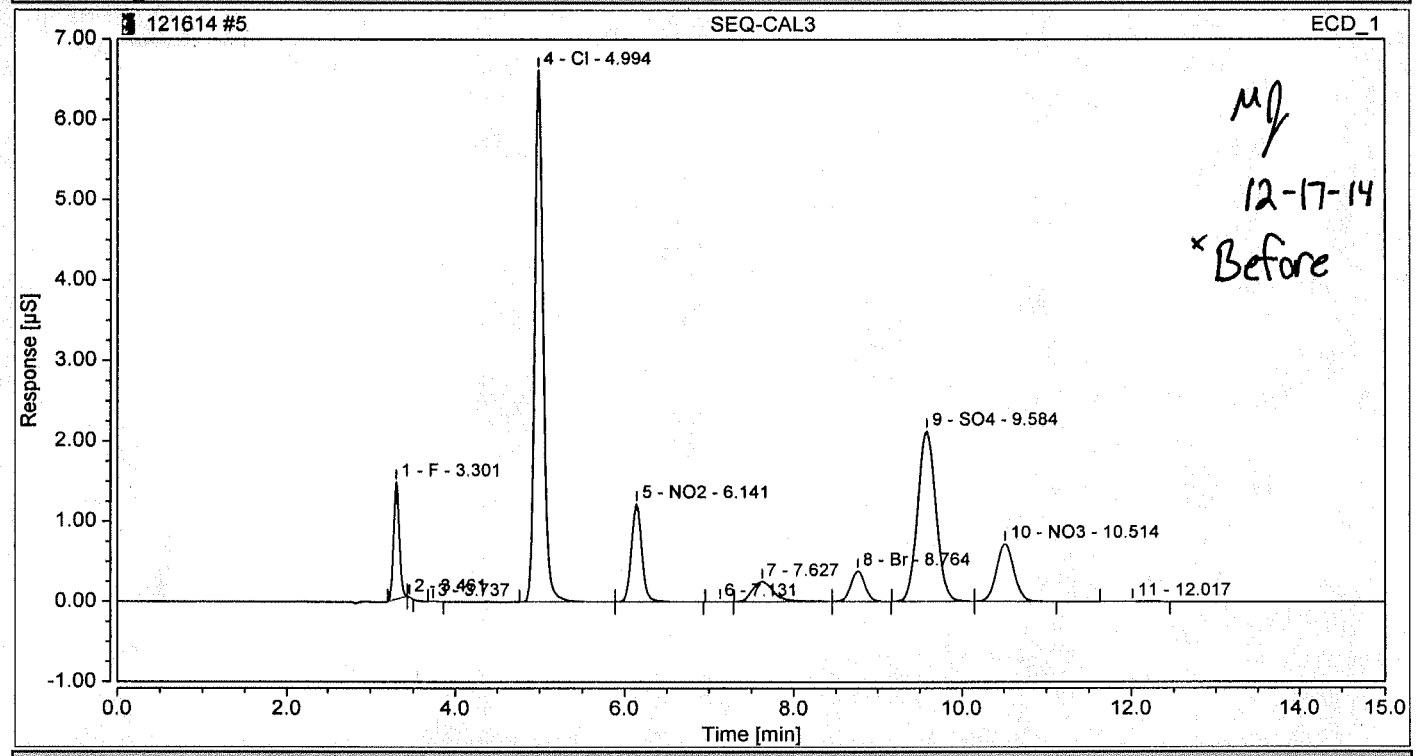
J.H. 12.18.14

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL3**	*Run Time (min):*	**15.00**
Vial Number:	**5**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**03**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 10:23**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

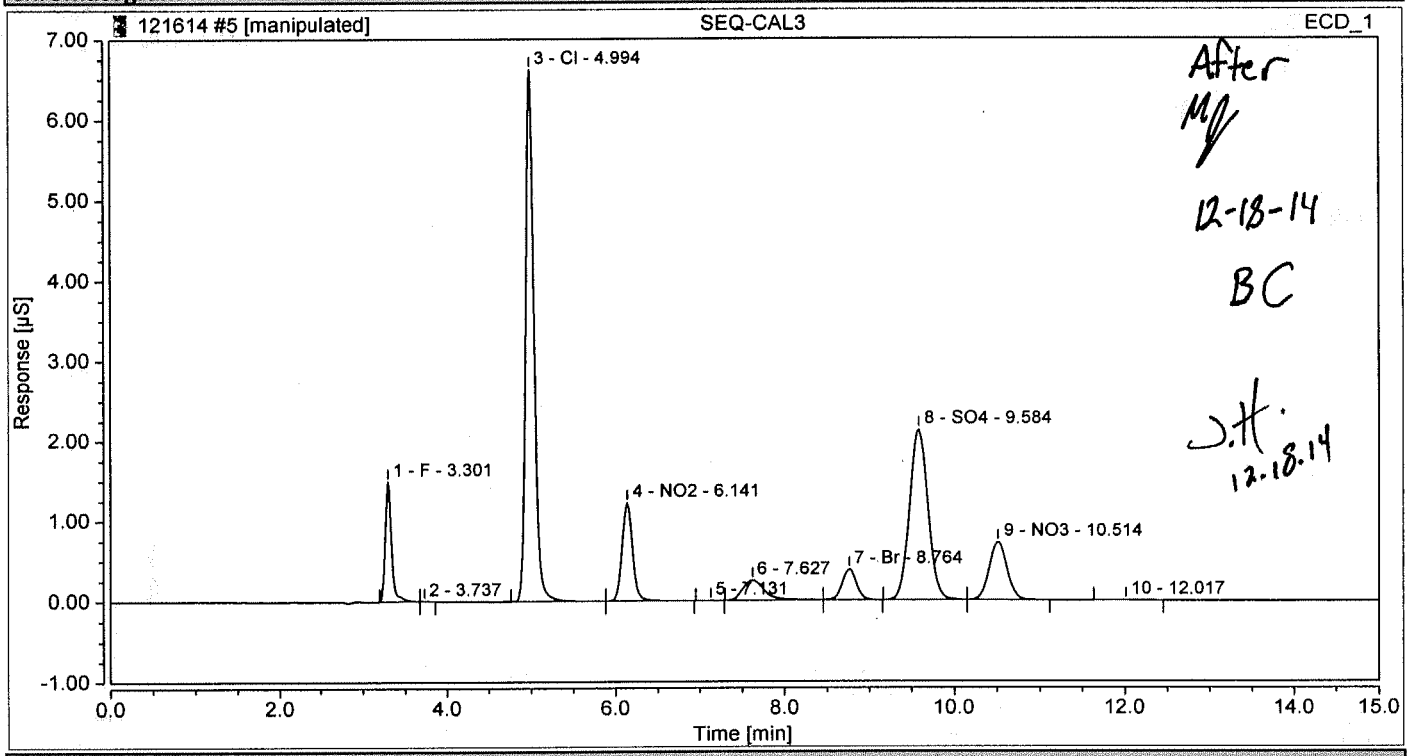
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.301	0.1159286	1.464	6.06	11.44	0.2373
2		3.461	0.0001110	0.003	0.01	0.02	n.a.
3		3.737	0.0001562	0.002	0.01	0.01	n.a.
4	Cl	4.994	0.7634884	6.618	39.92	51.74	2.5351
5	NO2	6.141	0.1738815	1.224	9.09	9.57	0.2627
6		7.131	0.0004057	0.003	0.02	0.02	n.a.
7		7.627	0.0743022	0.249	3.89	1.95	n.a.
8	Br	8.764	0.0743824	0.381	3.89	2.98	0.5783
9	SO4	9.584	0.5340354	2.127	27.93	16.63	2.6340
10	NO3	10.514	0.1746172	0.719	9.13	5.62	0.2368
11		12.017	0.0010489	0.003	0.05	0.02	n.a.
Total:			**1.912**	**12.791**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL3**	*Run Time (min):*	**15.00**
Vial Number:	**5**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**03**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 10:23**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

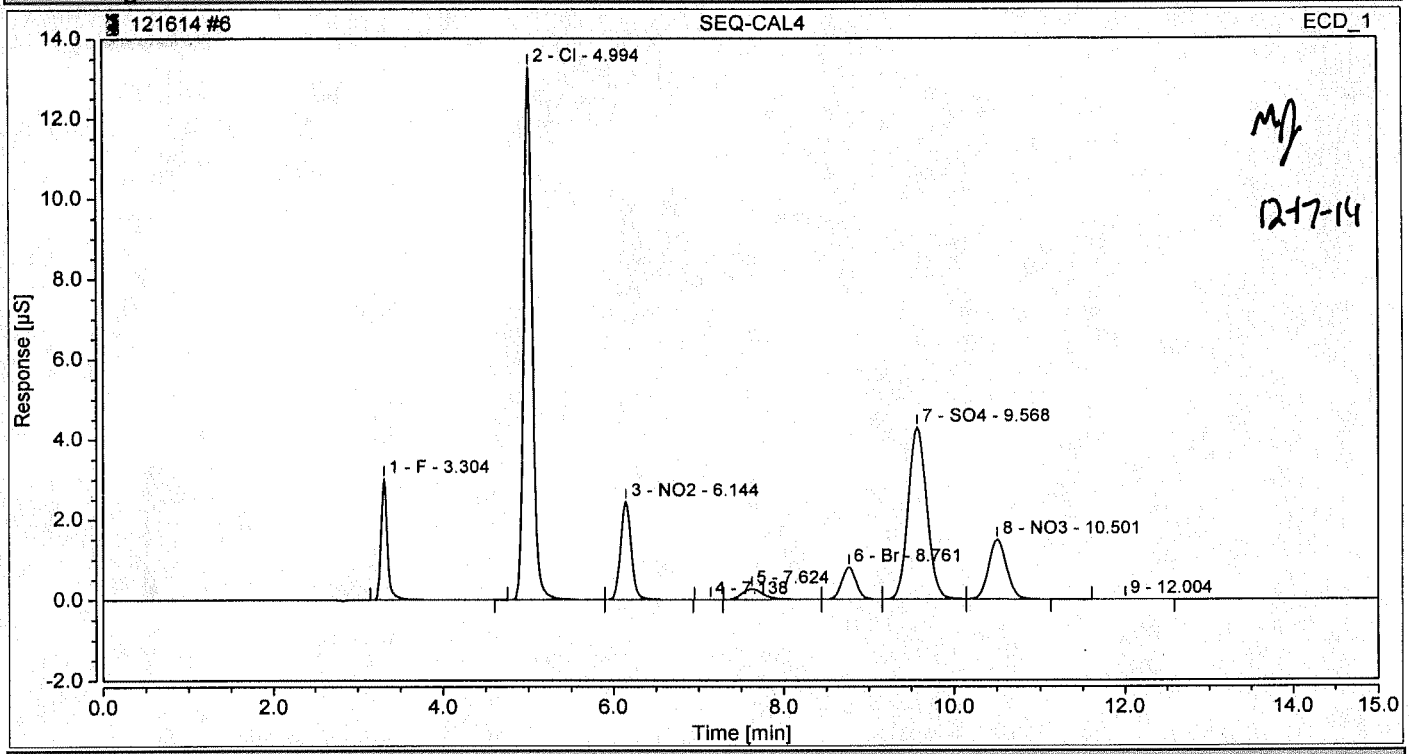
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.301	0.1274347	1.492	6.62	11.64	0.2609
2		3.737	0.0001377	0.000	0.01	0.00	n.a.
3	Cl	4.994	0.7634884	6.618	39.69	51.64	2.5351
4	NO2	6.141	0.1738815	1.224	9.04	9.55	0.2627
5		7.131	0.0004057	0.003	0.02	0.02	n.a.
6		7.627	0.0743022	0.249	3.86	1.95	n.a.
7	Br	8.764	0.0743824	0.381	3.87	2.97	0.5783
8	SO4	9.584	0.5340354	2.127	27.76	16.60	2.6340
9	NO3	10.514	0.1746172	0.719	9.08	5.61	0.2368
10		12.017	0.0010489	0.003	0.05	0.02	n.a.
Total:			**1.924**	**12.815**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL4**	*Run Time (min):*	**15.00**
Vial Number:	**6**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**04**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 10:41**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.304	0.2655798	3.025	6.91	11.83	0.5437
2	Cl	4.994	1.5393683	13.281	40.06	51.93	5.1114
3	NO2	6.144	0.3522259	2.441	9.17	9.54	0.5321
4		7.138	0.0004201	0.003	0.01	0.01	n.a.
5		7.624	0.0793942	0.264	2.07	1.03	n.a.
6	Br	8.761	0.1559308	0.798	4.06	3.12	1.2124
7	SO4	9.568	1.0854872	4.281	28.25	16.74	5.3539
8	NO3	10.501	0.3621844	1.479	9.43	5.78	0.4911
9		12.004	0.0017031	0.005	0.04	0.02	n.a.
Total:			**3.842**	**25.577**	**100.00**	**100.00**	

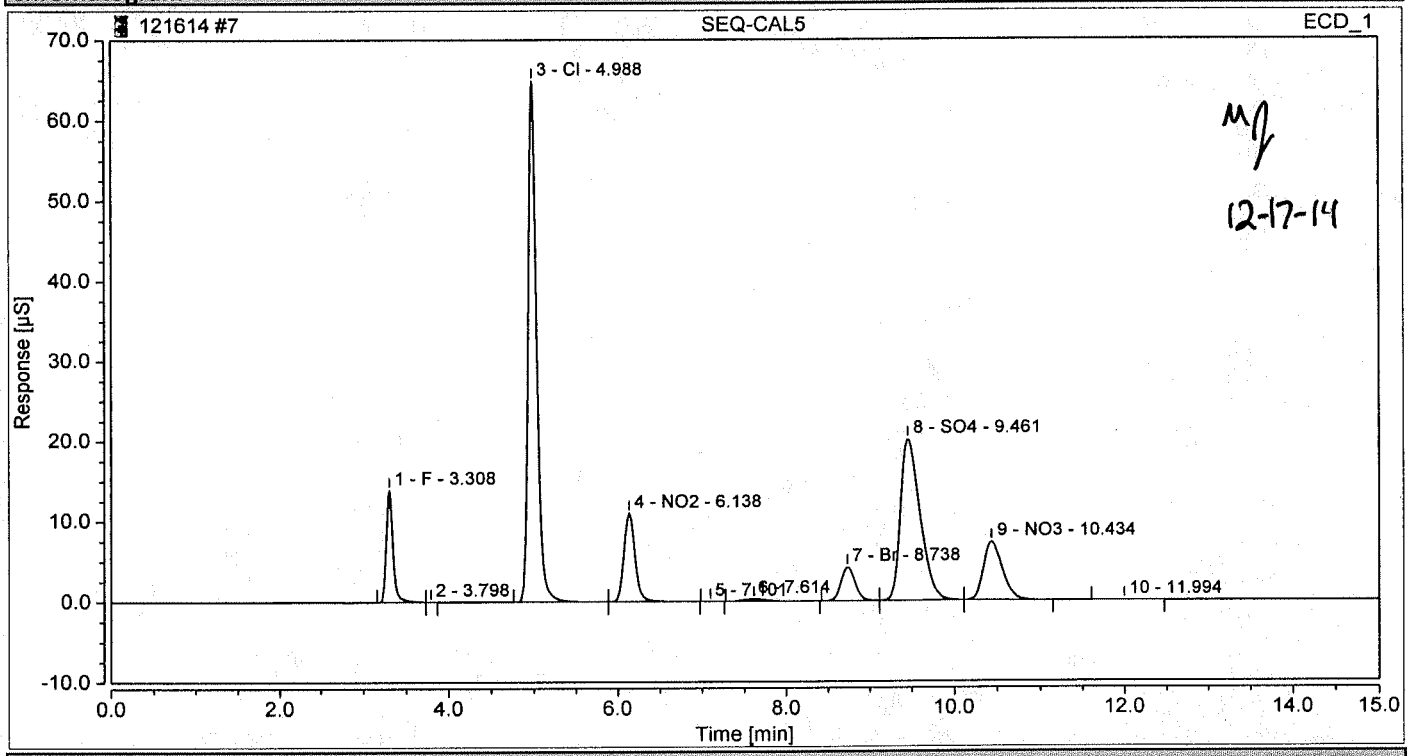
12.18.14

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL5**	*Run Time (min):*	**15.00**
Vial Number:	**7**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**05**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 10:59**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.308	1.2614660	13.924	6.74	11.45	2.5827
2		3.798	0.0003664	0.005	0.00	0.00	n.a.
3	Cl	4.988	7.6003656	64.873	40.62	53.35	25.2366
4	NO2	6.138	1.6867810	10.981	9.01	9.03	2.5480
5		7.101	0.0003045	0.002	0.00	0.00	n.a.
6		7.614	0.0861981	0.286	0.46	0.24	n.a.
7	Br	8.738	0.8183803	4.177	4.37	3.43	6.3629
8	SO4	9.461	5.3930390	20.086	28.82	16.52	26.6000
9	NO3	10.434	1.8600380	7.249	9.94	5.96	2.5220
10		11.994	0.0057436	0.018	0.03	0.01	n.a.
Total:			**18.713**	**121.601**	**100.00**	**100.00**	

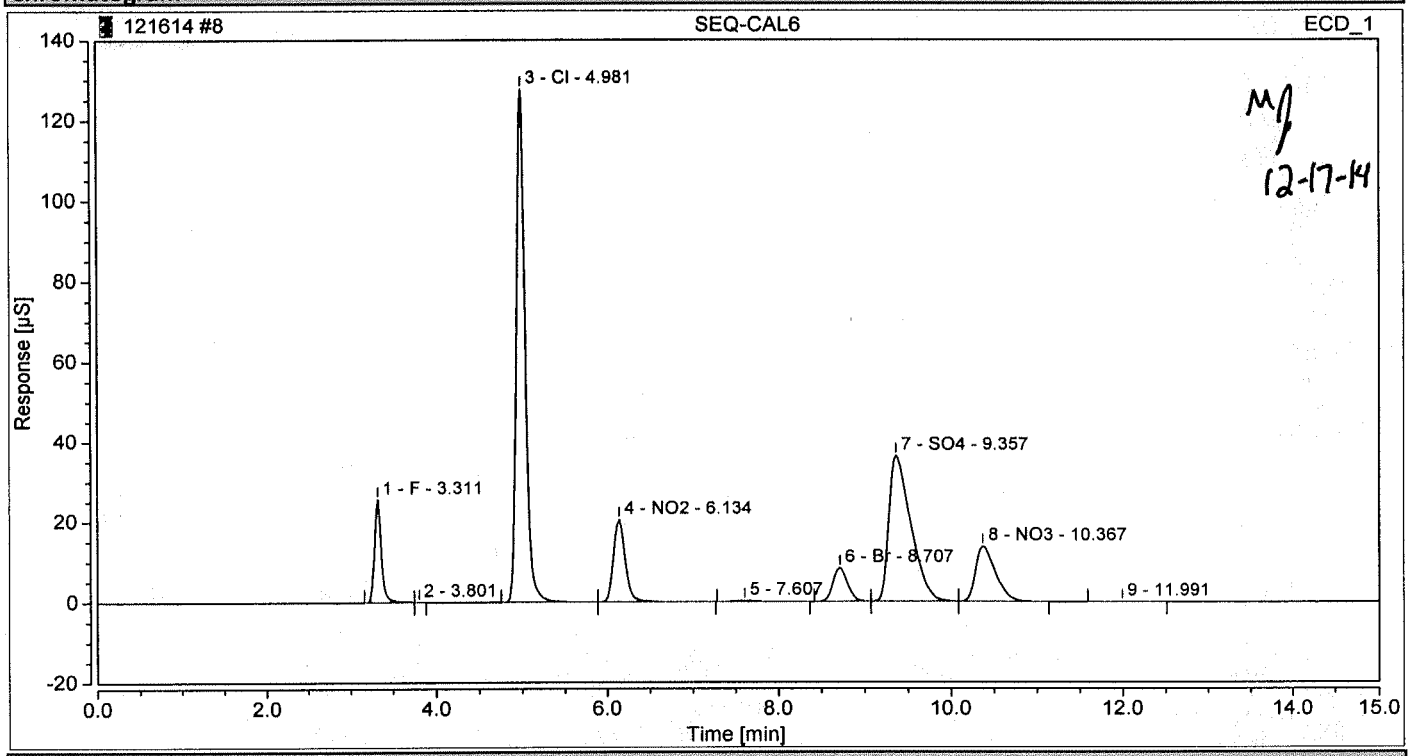
J.H. 12.18.14

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL6**	*Run Time (min):*	**15.00**
Vial Number:	**8**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**06**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 11:16**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.311	2.4201409	25.644	6.54	11.02	4.9549
2		3.801	0.0008154	0.012	0.00	0.01	n.a.
3	Cl	4.981	15.1113592	127.719	40.86	54.89	50.1765
4	NO2	6.134	3.2915686	20.506	8.90	8.81	4.9722
5		7.607	0.0816563	0.277	0.22	0.12	n.a.
6	Br	8.707	1.6417382	8.387	4.44	3.60	12.7645
7	SO4	9.357	10.7089752	36.371	28.95	15.63	52.8197
8	NO3	10.367	3.7204432	13.732	10.06	5.90	5.0444
9		11.991	0.0099274	0.030	0.03	0.01	n.a.
Total:			**36.987**	**232.678**	**100.00**	**100.00**	

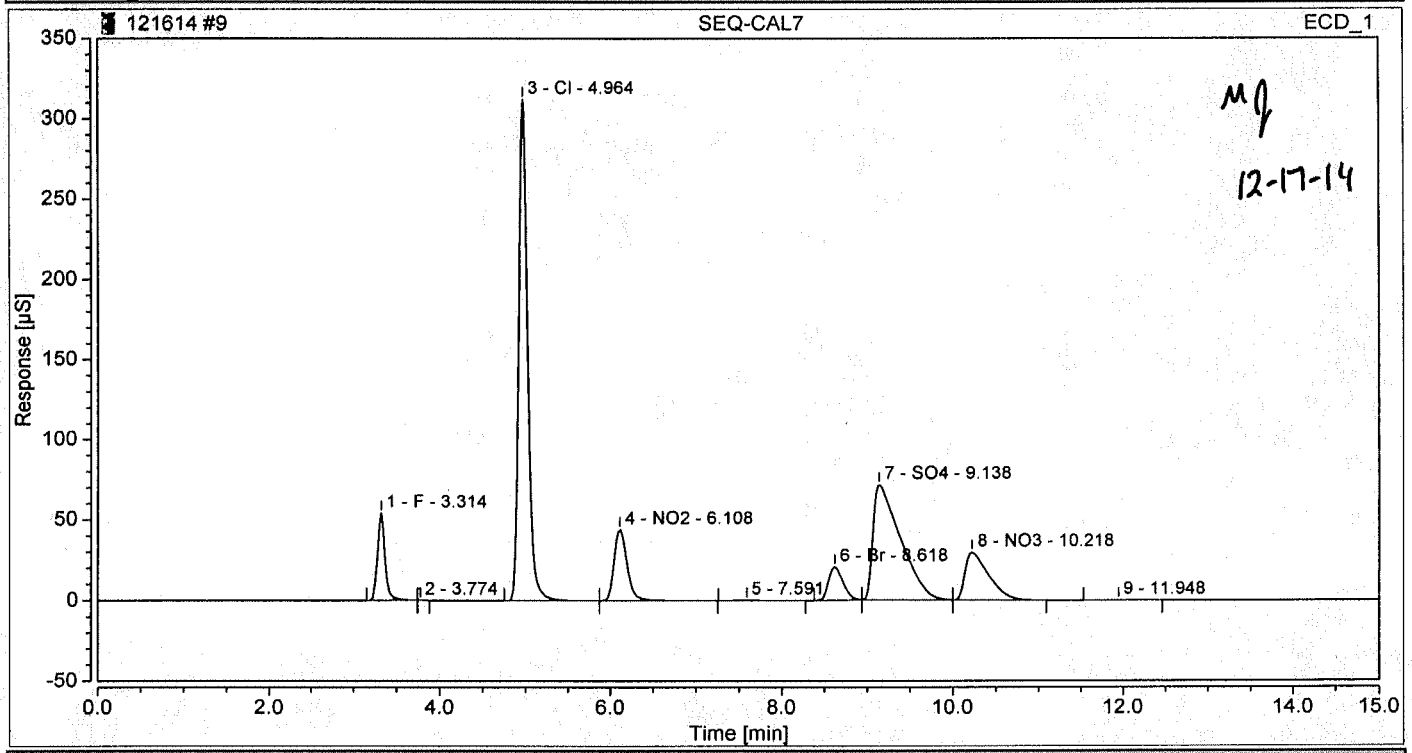
JH. 12.18.14

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL7**	*Run Time (min):*	**15.00**
Vial Number:	**9**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**07**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 11:34**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount	
1	F	3.314	5.5564427	54.049	6.11	10.16	11.3760	NOT USED
2		3.774	0.0026159	0.027	0.00	0.00	n.a.	
3	Cl	4.964	37.6891170	311.985	41.42	58.64	125.1449	
4	NO2	6.108	7.7895833	44.024	8.56	8.27	11.7667	NOT USED
5		7.591	0.1035898	0.347	0.11	0.07	n.a.	
6	Br	8.618	4.0417792	20.645	4.44	3.88	31.4249	
7	SO4	9.138	26.4705091	71.371	29.09	13.42	130.5600	
8	NO3	10.218	9.3066560	29.506	10.23	5.55	12.6185	
9		11.948	0.0233292	0.069	0.03	0.01	n.a.	
Total:			**90.984**	**532.021**	**100.00**	**100.00**		

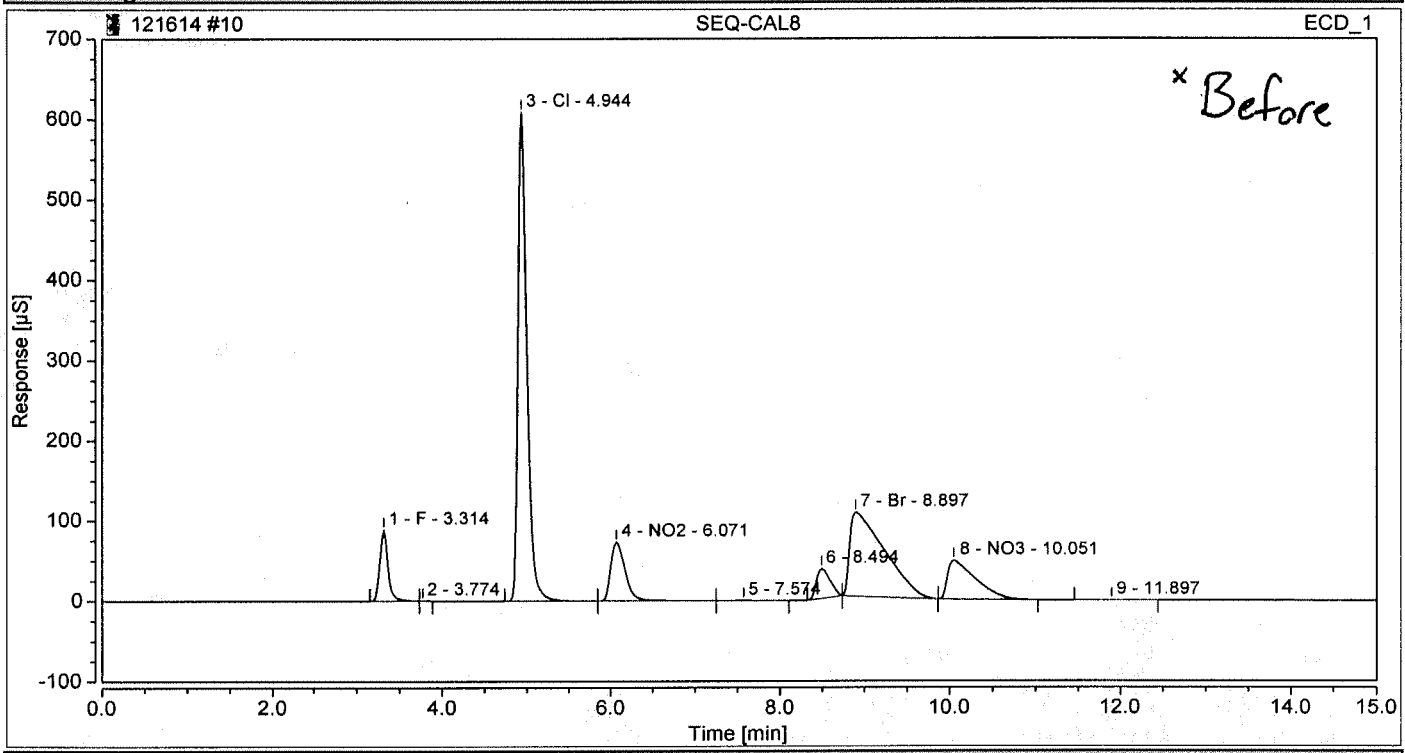
J.H. 12.18.14

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL8**	*Run Time (min):*	**16.00**
Vial Number:	**10**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**08**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 11:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

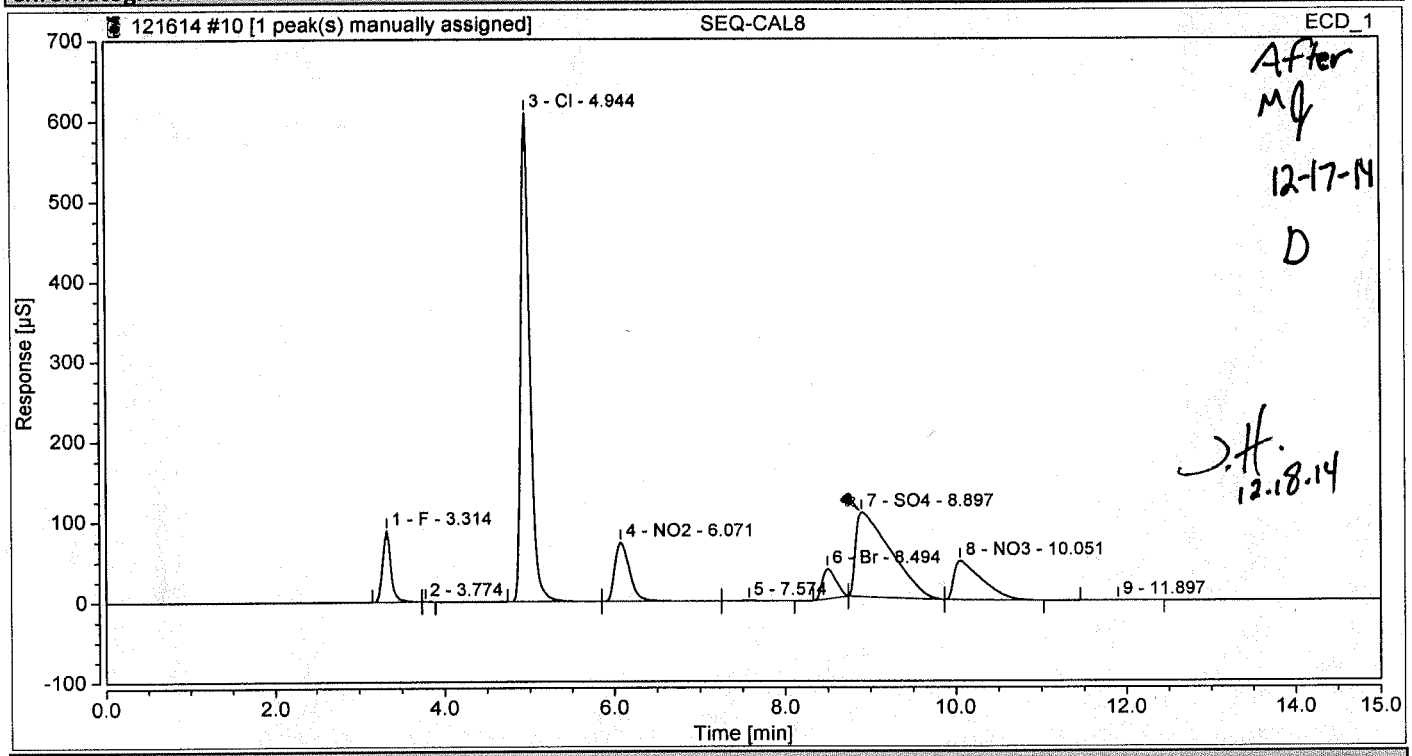
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.314	10.1099268	88.941	5.76	9.24	20.6987
2		3.774	0.0075837	0.079	0.00	0.01	n.a.
3	Cl	4.944	75.2506308	608.833	42.88	63.23	249.8661
4	NO2	6.071	14.6230809	73.355	8.33	7.62	22.0892
5		7.574	0.1273881	0.427	0.07	0.04	n.a.
6		8.494	6.9571532	37.385	3.96	3.88	n.a.
7	Br	8.897	49.9743575	105.092	28.48	10.92	388.5514
n.a.	SO4	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
8	NO3	10.051	18.3868335	48.578	10.48	5.05	24.9300
9		11.897	0.0465005	0.128	0.03	0.01	n.a.
Total:			**175.483**	**962.819**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL8**	*Run Time (min):*	**15.00**
Vial Number:	**10**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**08**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 11:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

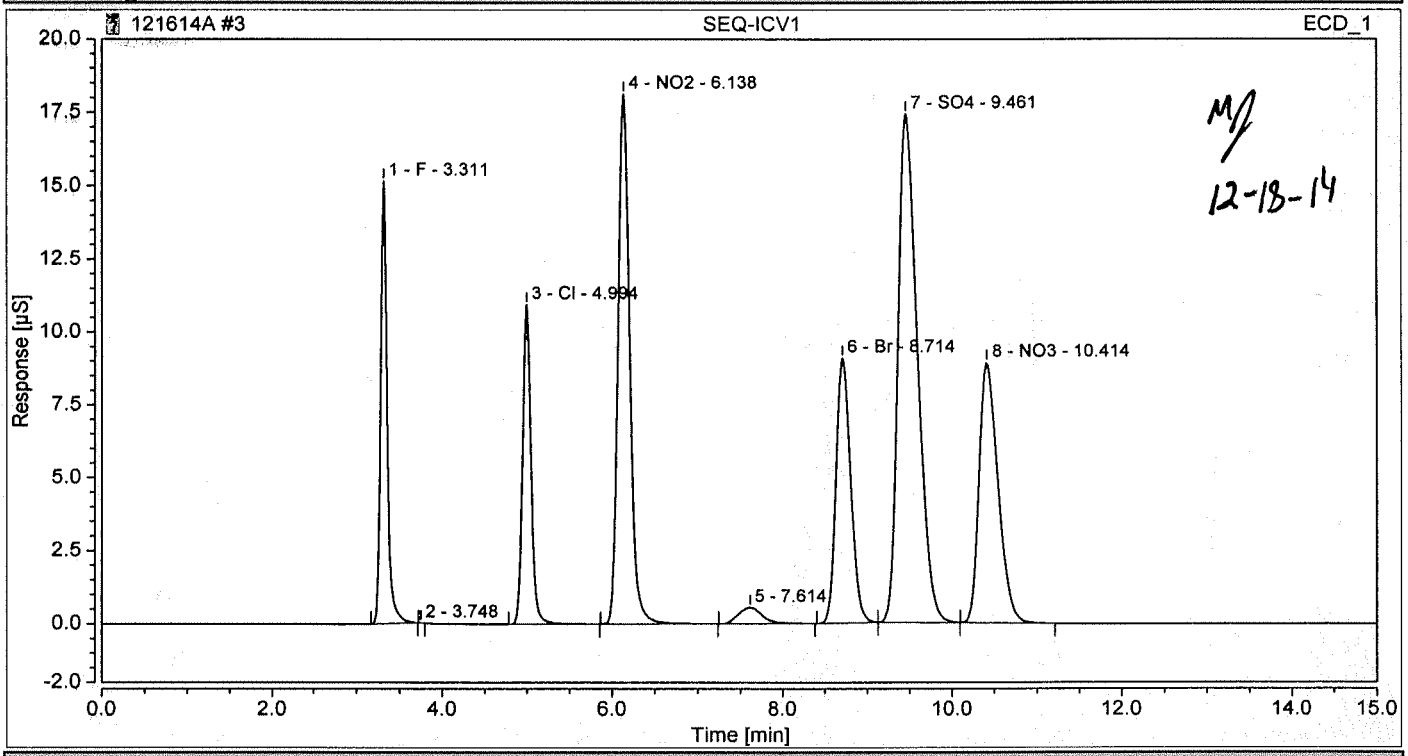
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount	
1	F	3.314	10.1099268	88.941	5.76	9.24	20.6987	NOT USED
2		3.774	0.0075837	0.079	0.00	0.01	n.a.	
3	Cl	4.944	75.2506308	608.833	42.88	63.23	249.8661	
4	NO2	6.071	14.6230809	73.355	8.33	7.62	22.0892	NOT USED
5		7.574	0.1273881	0.427	0.07	0.04	n.a.	
6	Br	8.494	6.9571532	37.385	3.96	3.88	54.0920	NOT USED
7	SO4	8.897	49.9743575	105.092	28.48	10.92	246.4875	
8	NO3	10.051	18.3868335	48.578	10.48	5.05	24.9300	
9		11.897	0.0465005	0.128	0.03	0.01	n.a.	
Total:			**175.483**	**962.819**	**100.00**	**100.00**		

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-ICV1**	*Run Time (min):*	**15.00**
Vial Number:	**3**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 13:43**	*Sample Weight:*	**1.0000**

Chromatogram



MJ 12-18-14

Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.311	1.3777375 X	15.148	9.54	18.90	2.8202 X
2		3.748	0.0000732	0.002	0.00	0.00	n.a.
3	Cl	4.994	1.2644145	10.943	8.76	13.65	4.1984
4	NO2	6.138	2.8686200	18.113	19.87	22.60	4.3333
5		7.614	0.1824815	0.552	1.26	0.69	n.a.
6	Br	8.714	1.8130693	9.078	12.56	11.33	14.0966
7	SO4	9.461	4.6157847	17.395	31.97	21.70	22.7663
8	NO3	10.414	2.3168384	8.921	16.05	11.13	3.1413
Total:			**14.439**	**80.154**	**100.00**	**100.00**	

J.H. 12.18.14

	Type	Analysis	Sample Name	Sample ID	Dilution	Result	Comment	Status
1	Unknown	NPOC	SEQ-CCV	15A0429 TV=25ppm	1.000	NPOC:25.94mg/L	9060A Quad	Completed
2	Unknown	NPOC	SEQ-CCB	QC	1.000	NPOC:0.1415mg/L		Completed
3	Unknown	NPOC	5A27017-BLK1	QC	1.000	NPOC:0.1817mg/L		Completed
4	Unknown	NPOC	5A27017-BS1	15A0426 TV=25ppm	1.000	NPOC:26.96mg/L		Completed
5	Unknown	NPOC	1501053-28	Empirical PT Study	1.000	NPOC:68.33mg/L		Completed
6	Unknown	NPOC	1501102-01	CB&I	1.000	NPOC:0.5802mg/L		Completed
7	Unknown	NPOC	1501102-02	CB&I	1.000	NPOC:0.6854mg/L		Completed
8	Unknown	NPOC	1501102-04	CB&I	1.000	NPOC:0.6950mg/L		Completed
9	Unknown	NPOC	1501102-05	CB&I	1.000	NPOC:0.3737mg/L		Completed
10	Unknown	NPOC	1501104-01	Quantum	1.000	NPOC:1.771mg/L		Completed
11	Unknown	NPOC	1501104-02	Quantum	1.000	NPOC:1.833mg/L		Completed
12	Unknown	NPOC	5A27017-MS1	Quantum	1.000	NPOC:16.46mg/L	15ppm	Completed
13	Unknown	NPOC	5A27017-MSD1	Quantum	1.000	NPOC:16.23mg/L	15ppm	Defined
14	Unknown	NPOC	1501104-03	Quantum	1.000	NPOC:1.167mg/L		Completed
15	Unknown	NPOC	1501104-04	Quantum	1.000	NPOC:10.57mg/L		Completed
16	Unknown	NPOC	1501104-05	Quantum	1.000	NPOC:13.53mg/L		Completed
17	Unknown	NPOC	SEQ-CCV	15A0430 TV=50ppm	1.000	NPOC:55.73mg/L		Completed
18	Unknown	NPOC	SEQ-CCB	QC	1.000	NPOC:0.1591mg/L		Completed

1-27-2015 Analysis

1501053-28: $\frac{789.8}{11.56} = 68.32$ mg/L

Sequence: 5A02901
Calibration: 5023004

2nd BLQ
1/29/15

Instr.Information

System Shimadzu TOC-Vws
Detector Wet Chemical

Sample

Sample Name: SEQ-CCV
Sample ID: 15A0429 TV=25ppm
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

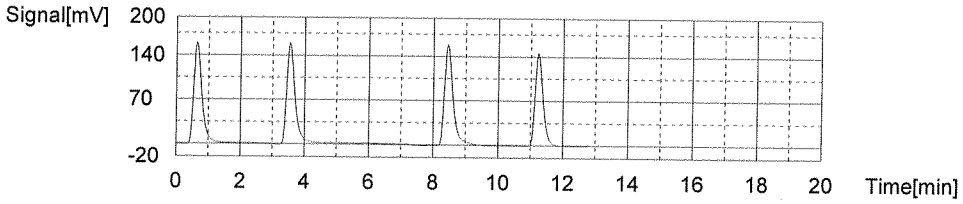
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:25.94mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	298.6	25.83mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 3:09:25 PM
2	347.4	30.05mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 3:16:42 PM
3	297.9	25.77mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 3:21:53 PM
4	255.6	22.11mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 3:27:36 PM

Mean Area 299.9
Mean Conc. 25.94mg/L



Sample

Sample Name: SEQ-CCB
Sample ID: QC
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

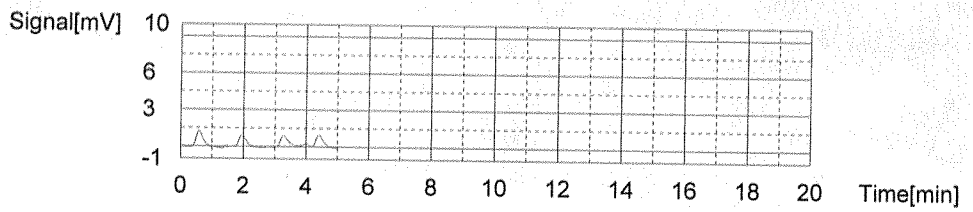
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.1415mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.191	0.1895mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 3:39:53 PM
2	1.604	0.1388mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 3:43:36 PM
3	1.404	0.1215mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 3:47:07 PM
4	1.345	0.1164mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 3:51:38 PM

Mean Area 1.636
Mean Conc. 0.1415mg/L



Sample

Sample Name: 5A27017-BLK1
Sample ID: QC
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

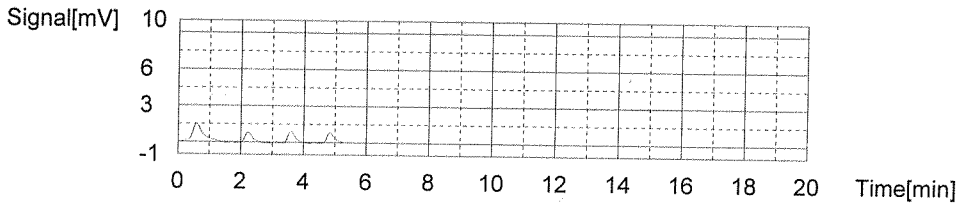
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.1817mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3.888	0.3364mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 4:02:09 PM
2	1.525	0.1319mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 4:05:54 PM
3	1.584	0.1370mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 4:09:32 PM
4	1.403	0.1214mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 4:14:03 PM

Mean Area 2.100
Mean Conc. 0.1817mg/L



Sample

Sample Name: 5A27017-BS1
Sample ID: 15A0426 TV=25ppm
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

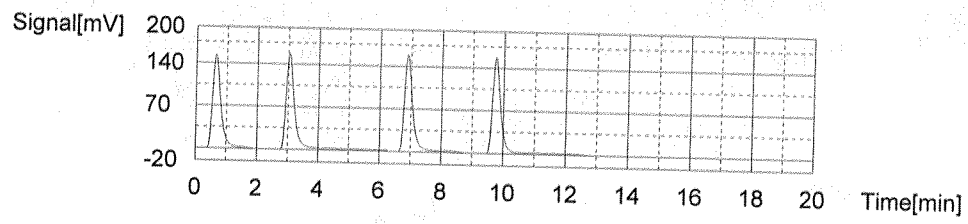
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:26.96mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	297.7	25.75mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 4:25:19 PM
2	313.8	27.15mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 4:31:33 PM
3	314.9	27.24mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 4:36:47 PM
4	320.0	27.68mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 4:43:04 PM

Mean Area 311.6
Mean Conc. 26.96mg/L



Sample

Sample Name: 1501053-28
Sample ID: Empirical PT Study
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

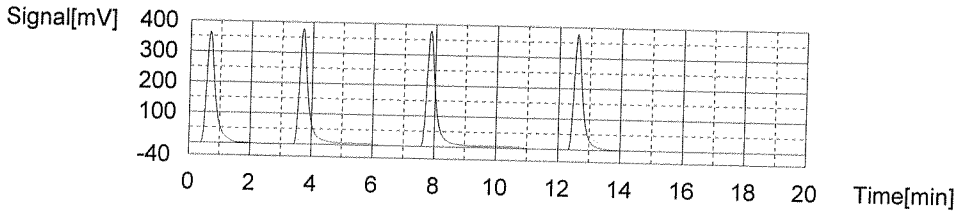
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:68.33mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	741.8	64.17mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 4:57:01 PM
2	822.5	71.15mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 5:03:33 PM
3	847.6	73.33mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 5:10:41 PM
4	747.3	64.65mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 5:16:24 PM

Mean Area 789.8
Mean Conc. 68.33mg/L



Sample

Sample Name: 1501102-01
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

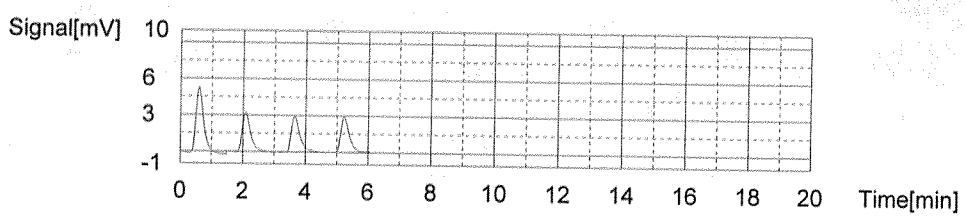
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.5802mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.466	0.8189mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 5:28:47 PM
2	6.141	0.5313mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 5:32:44 PM
3	5.778	0.4999mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 5:36:42 PM
4	5.441	0.4707mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 5:41:13 PM

Mean Area 6.707
Mean Conc. 0.5802mg/L



Sample

Sample Name: 1501102-02
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

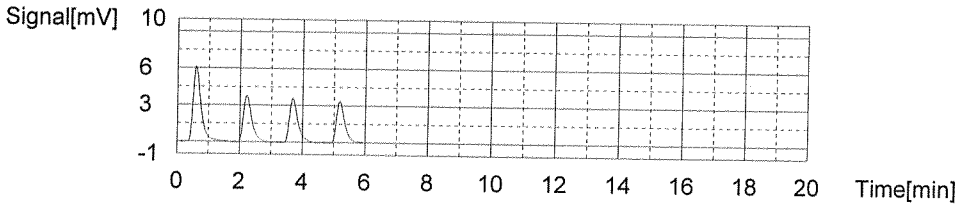
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.6854mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.95	0.9473mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 5:51:41 PM
2	7.279	0.6297mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 5:55:32 PM
3	6.988	0.6045mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 5:59:25 PM
4	6.475	0.5602mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 6:03:56 PM

Mean Area 7.923
Mean Conc. 0.6854mg/L



Sample

Sample Name: 1501102-04
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

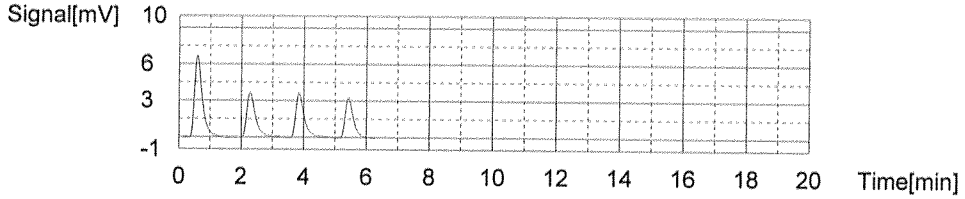
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.6950mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	11.95	1.034mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 6:14:28 PM
2	7.128	0.6166mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 6:18:25 PM
3	7.065	0.6112mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 6:22:23 PM
4	5.994	0.5185mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 6:26:54 PM

Mean Area 8.034
Mean Conc. 0.6950mg/L



Sample

Sample Name: 1501102-05
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

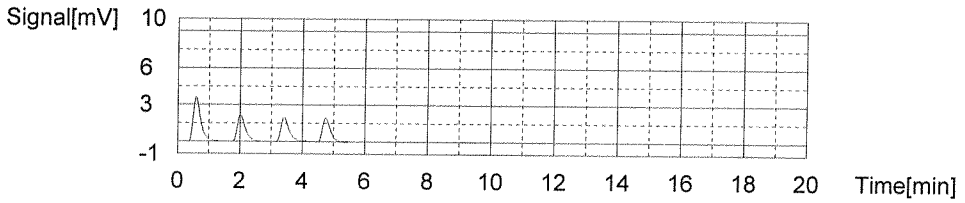
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.3737mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.202	0.5365mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 6:37:11 PM
2	4.010	0.3469mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 6:40:58 PM
3	3.624	0.3135mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 6:44:41 PM
4	3.441	0.2977mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 6:49:12 PM

Mean Area 4.319
Mean Conc. 0.3737mg/L



Sample

Sample Name: 1501104-01
Sample ID: Quantum
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

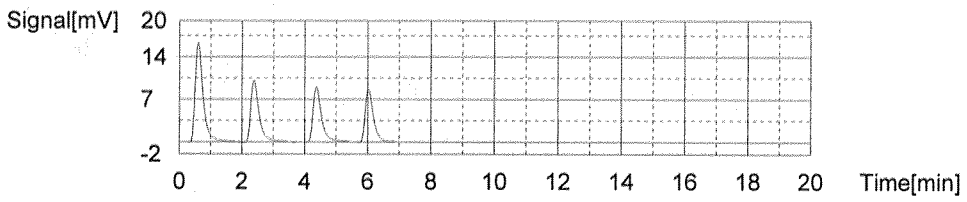
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:1.771mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	29.17	2.524mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 6:59:50 PM
2	19.63	1.698mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 7:04:12 PM
3	17.04	1.474mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 7:08:14 PM
4	16.05	1.388mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 7:12:45 PM

Mean Area 20.47
Mean Conc. 1.771mg/L



Sample

Sample Name: 1501104-02
Sample ID: Quantum
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

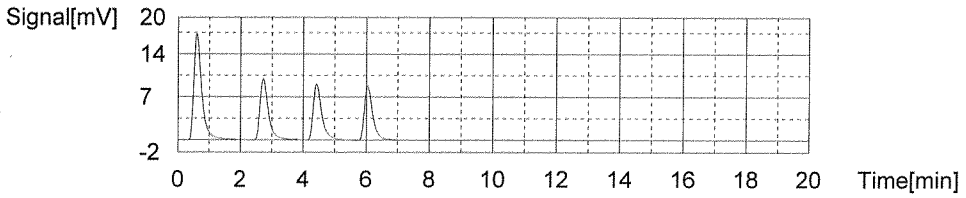
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:1.833mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	31.63	2.736mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 7:23:43 PM
2	18.85	1.631mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 7:27:48 PM
3	17.66	1.528mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 7:31:48 PM
4	16.60	1.436mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 7:36:19 PM

Mean Area 21.19
Mean Conc. 1.833mg/L



Sample

Sample Name: 5A27017-MS1
Sample ID: Quantum
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

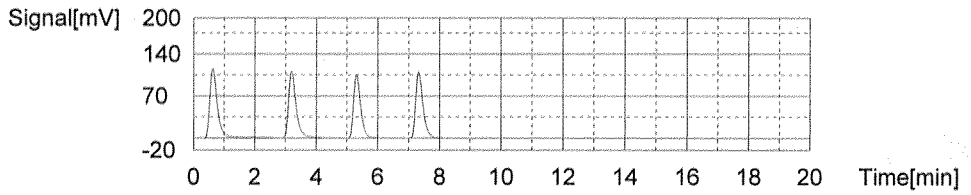
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:16.46mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	204.6	17.70mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 7:47:45 PM
2	197.4	17.08mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 7:52:15 PM
3	171.2	14.81mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 7:56:39 PM
4	187.9	16.26mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 8:01:10 PM

Mean Area 190.3
Mean Conc. 16.46mg/L



Sample

Sample Name: 5A27017-MSD1
Sample ID: Quantum
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

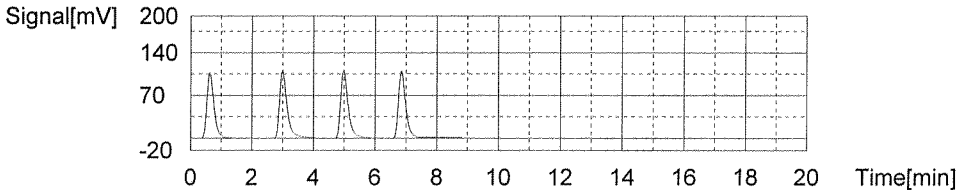
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:16.23mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	176.5	15.27mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 8:12:24 PM
2	192.6	16.66mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 8:16:46 PM
3	190.4	16.47mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 8:21:43 PM
4	190.8	16.51mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 8:28:12 PM

Mean Area 187.6
Mean Conc. 16.23mg/L



Sample

Sample Name: 1501104-03
Sample ID: Quantum
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

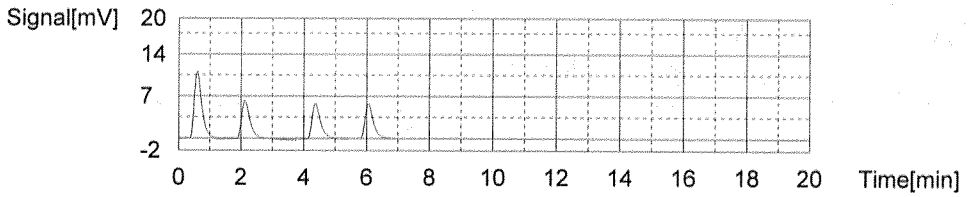
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:1.167mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	19.22	1.663mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 8:40:54 PM
2	12.66	1.095mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 8:47:38 PM
3	11.31	0.9784mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 8:52:41 PM
4	10.76	0.9309mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 8:57:12 PM

Mean Area 13.49
Mean Conc. 1.167mg/L



Sample

Sample Name: 1501104-04
Sample ID: Quantum
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

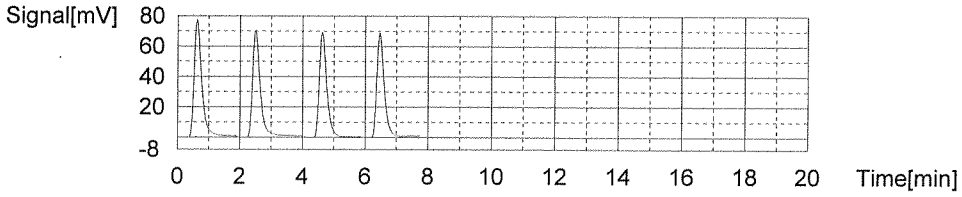
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:10.57mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	133.8	11.58mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 9:07:56 PM
2	122.5	10.60mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 9:12:27 PM
3	116.2	10.05mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 9:17:24 PM
4	116.0	10.04mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 9:22:42 PM

Mean Area 122.1
Mean Conc. 10.57mg/L



Sample

Sample Name: 1501104-05
Sample ID: Quantum
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

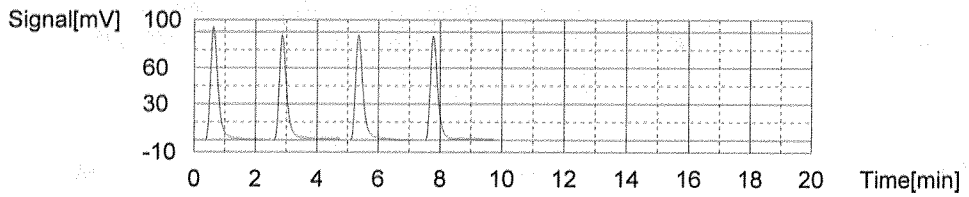
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:13.53mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	165.6	14.33mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 9:33:48 PM
2	154.2	13.34mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 9:38:40 PM
3	155.7	13.47mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 9:43:34 PM
4	150.1	12.99mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 9:50:00 PM

Mean Area 156.4
Mean Conc. 13.53mg/L



Sample

Sample Name: SEQ-CCV
Sample ID: 15A0430 TV=50ppm
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

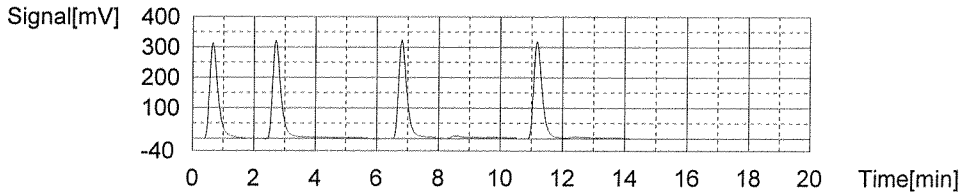
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:55.73mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	602.6	52.13mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 10:05:00 PM
2	663.7	57.42mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 10:14:45 PM
3	652.7	56.47mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 10:22:43 PM
4	658.0	56.92mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 10:30:06 PM

Mean Area 644.3
Mean Conc. 55.73mg/L



Sample

Sample Name: SEQ-CCB
Sample ID: QC
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

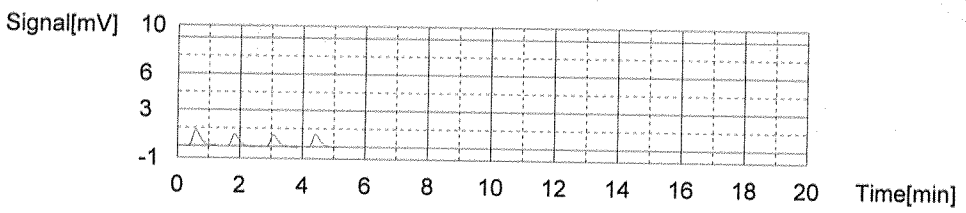
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.1591mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.314	0.2002mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 10:42:16 PM
2	1.655	0.1432mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 10:45:54 PM
3	1.667	0.1442mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 10:49:38 PM
4	1.722	0.1490mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	1/27/2015 10:54:09 PM

Mean Area	1.840
Mean Conc.	0.1591mg/L



TOC-V Cal Curve Information
01-19-15Q.2015_01_19_11_33_04.cal

Date of Creation	10:35:54 AM 1/19/2015
User	RBURR
System	Shimadzu TOC-Vws

Cal. Curve

Sample Name:	Untitled
Sample ID:	Untitled
Cal. Curve:	01-19-15Q.2015_01_19_11_33_04.cal
Status	Completed
Comment:	

Type	Anal.
Standard	NPOC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1.831	350uL	2	*******		1/19/2015 11:42:33 A
2	1.286	350uL	2	*******		1/19/2015 11:45:43 A
3	1.255	350uL	2	*******		1/19/2015 11:48:52 A
4	1.213	350uL	2	*******		1/19/2015 11:53:07 A

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	1.396
SD Area	0.2914
CV Area	20.87%
Vial	1
WetChem Oxid.	1.5mL

Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	11.99	350uL	2	*******		1/19/2015 12:03:18 P
2	11.78	350uL	2	*******		1/19/2015 12:06:45 P
3	11.72	350uL	2	*******		1/19/2015 12:10:11 P
4	11.42	350uL	2	*******		1/19/2015 12:14:26 P

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	11.73
SD Area	0.2354
CV Area	2.01%
Vial	2
WetChem Oxid.	1.5mL

Conc: 2.500mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	25.55	350uL	2	*******		1/19/2015 12:24:39 P
2	27.06	350uL	2	*******		1/19/2015 12:28:11 P
3	28.51	350uL	2	*******		1/19/2015 12:31:59 P
4	26.05	350uL	2	*******		1/19/2015 12:36:15 P

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	26.79
SD Area	1.306
CV Area	4.87%
Vial	3
WetChem Oxid.	1.5mL

Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	51.30	350uL	2	*******		1/19/2015 12:46:38 I
2	51.69	350uL	2	*******		1/19/2015 12:50:19 I
3	52.69	350uL	2	*******		1/19/2015 12:54:41 I
4	50.84	350uL	2	*******		1/19/2015 12:58:56 I

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	51.63
SD Area	0.7874
CV Area	1.53%
Vial	4
WetChem Oxid.	1.5mL

Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	108.0	350uL	2	*******		1/19/2015 1:09:51 P
2	111.3	350uL	2	*******		1/19/2015 1:14:06 P
3	109.4	350uL	2	*******		1/19/2015 1:18:05 P
4	103.9	350uL	2	*******		1/19/2015 1:22:20 P

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	108.2
SD Area	3.140
CV Area	2.90%
Vial	5
WetChem Oxid.	1.5mL

Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	248.9	350uL	2	*******		1/19/2015 1:32:48 P
2	290.8	350uL	2	*******		1/19/2015 1:38:14 P
3	273.0	350uL	2	*******		1/19/2015 1:42:06 P
4	280.0	350uL	2	*******		1/19/2015 1:46:21 P

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	273.2
SD Area	17.76
CV Area	6.50%
Vial	6
WetChem Oxid.	1.5mL

Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	563.3	350uL	2	*******		1/19/2015 1:57:06 P
2	559.5	350uL	2	*******		1/19/2015 2:01:01 P
3	574.4	350uL	2	*******		1/19/2015 2:05:00 P
4	541.7	350uL	2	*******		1/19/2015 2:09:15 P

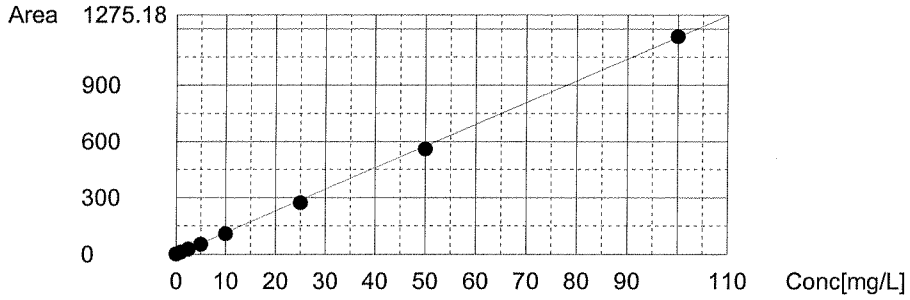
Acid Add. 3.000%
Sp. Time 180.0sec
Mean Area 559.7
SD Area 13.58
CV Area 2.43%
Vial 7
WetChem Oxid. 1.5mL

Conc: 100.0mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1263	350uL	2	*******		1/19/2015 2:22:09 P
2	1278	350uL	2	*******		1/19/2015 2:27:30 P
3	1024	350uL	2	*******		1/19/2015 2:31:36 P
4	1072	350uL	2	*******		1/19/2015 2:37:04 P

Acid Add. 3.000%
Sp. Time 180.0sec
Mean Area 1159
SD Area 130.1
CV Area 11.22%
Vial 8
WetChem Oxid. 1.5mL

Slope: 11.56
Intercept 0.000
r^2 0.9996
r 0.9998
Zero Shift Yes



Sequence Overview

Sequence Details

Name:	**012715**	*Created On:*	**26/Mar/14 13:54:45**
Directory:	**Instrument Data_ICS-2100\2015\Jan2015**	*Created By:*	**Thermo Elctron NA**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**27/Jan/15 21:53:50**
No. of Injections:	**27**	*Updated By:*	**NSH-IONC2**

Injection Details

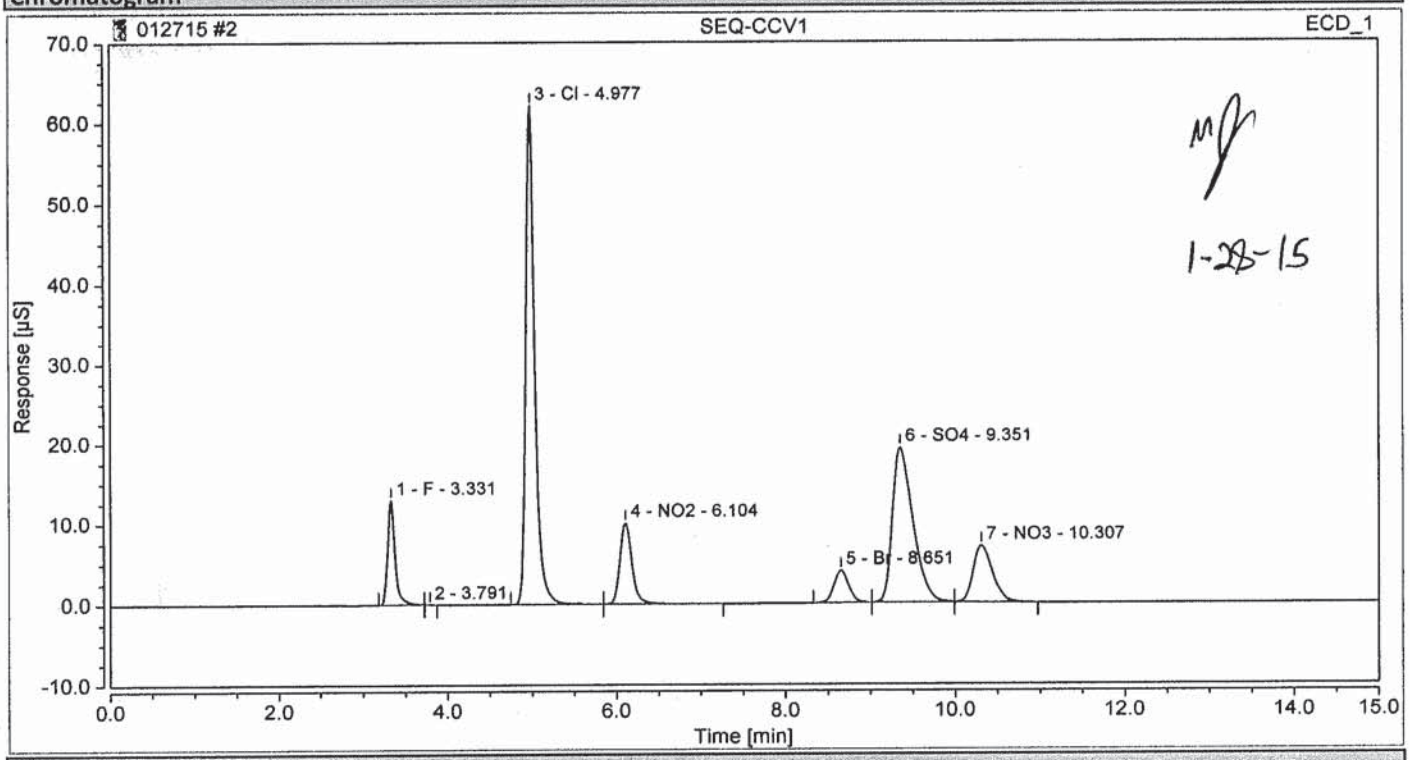
No.	Injection Name	Position	Type	Level	Inject Time	Status
1	BLANK	1	Unknown		27/Jan/15 13:49:31	Finished
2	SEQ-CCV1	2	Unknown		27/Jan/15 14:07:17	Finished
3	SEQ-CCB1	3	Unknown		27/Jan/15 14:25:07	Finished
4	SEQ-CRL1	4	Unknown		27/Jan/15 14:42:57	Finished
5	SEQ-CRL2	5	Unknown		27/Jan/15 15:00:47	Finished
6	SEQ-CRL3	6	Unknown		27/Jan/15 15:18:37	Finished
7	5A27016-BLK1	7	Unknown		27/Jan/15 15:36:27	Finished
8	5A27016-BS1	8	Unknown		27/Jan/15 15:58:10	Finished
9	1501104-01	9	Unknown		27/Jan/15 16:16:01	Finished
10	1501104-02	10	Unknown		27/Jan/15 16:33:51	Finished
11	5A27016-MS1	11	Unknown		27/Jan/15 16:51:42	Finished
12	5A27016-MSD1	12	Unknown		27/Jan/15 17:09:32	Finished
13	5A27016-DUP1	13	Unknown		27/Jan/15 17:27:22	Finished
14	1501104-03	14	Unknown		27/Jan/15 17:45:13	Finished
15	1501104-04	15	Unknown		27/Jan/15 18:03:03	Finished
16	1501104-05	16	Unknown		27/Jan/15 18:20:53	Finished
17	SEQ-CCV2	17	Unknown		27/Jan/15 18:38:43	Finished
18	SEQ-CCB2	18	Unknown		27/Jan/15 18:56:33	Finished
19	1501102-01	19	Unknown		27/Jan/15 19:14:23	Finished
20	1501102-02	20	Unknown		27/Jan/15 19:32:13	Finished
21	1501102-04	21	Unknown		27/Jan/15 19:50:04	Finished
22	1501102-05	22	Unknown		27/Jan/15 20:07:54	Finished
23	1501103-01	23	Unknown		27/Jan/15 20:25:43	Finished
24	1501103-02	24	Unknown		27/Jan/15 20:43:33	Finished
25	SEQ-CCV3	25	Unknown		27/Jan/15 21:01:24	Finished
26	SEQ-CCB3	26	Unknown		27/Jan/15 21:19:14	Finished
27	BLANK	27	Unknown		27/Jan/15 21:37:04	Finished

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CCV1**	*Run Time (min):*	**15.00**
Vial Number:	**2**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**27/Jan/15 14:07**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.331	1.2803640	12.989	6.85	11.24	2.6209
2		3.791	0.0003618	0.004	0.00	0.00	n.a.
3	Cl	4.977	7.7045020	62.105	41.20	53.75	25.5824
4	NO2	6.104	1.6467497	10.094	8.81	8.74	2.4875
5	Br	8.651	0.8054025	4.019	4.31	3.48	6.2620
6	SO4	9.351	5.4026397	19.298	28.89	16.70	26.6473
7	NO3	10.307	1.8593054	7.043	9.94	6.09	2.5210
Total:			**18.699**	**115.553**	**100.00**	**100.00**	

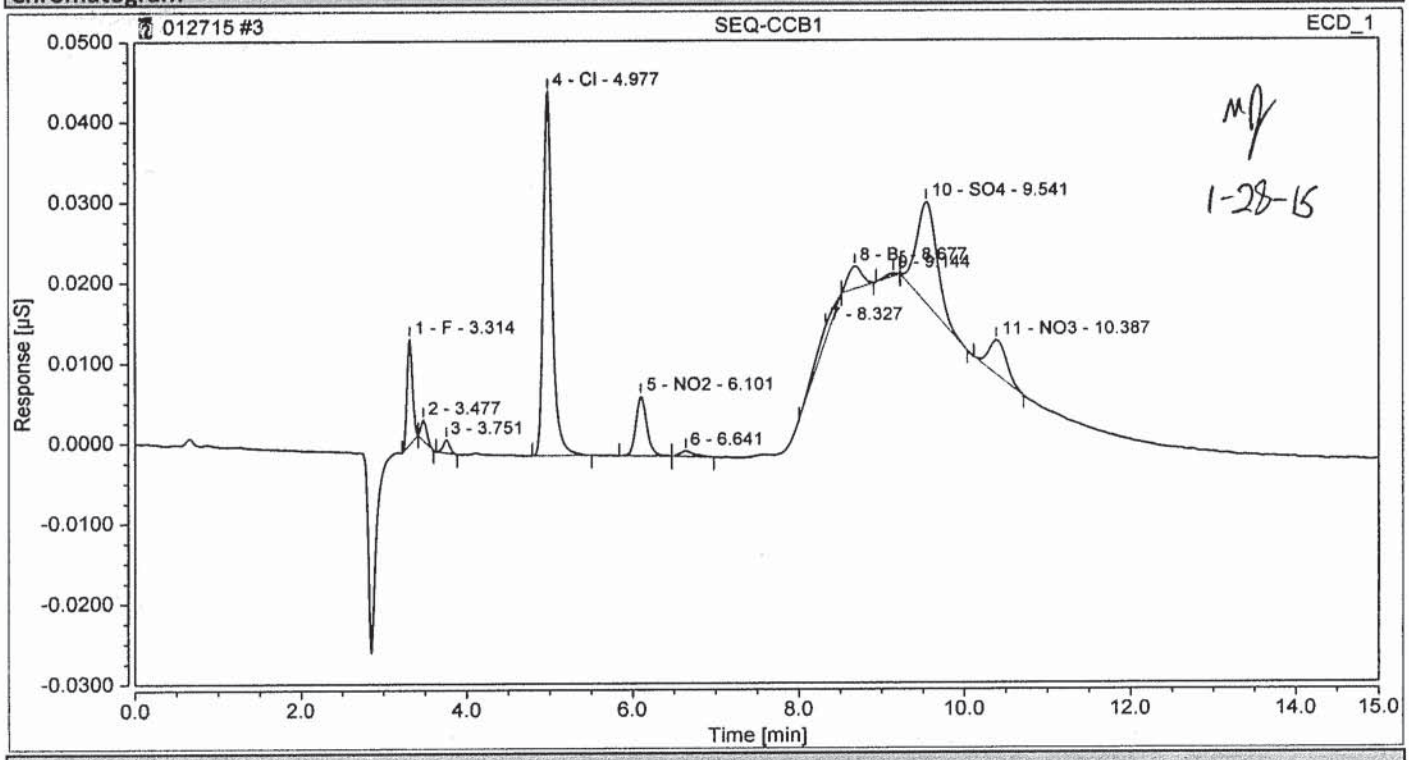
02/02/15

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CCB1**	*Run Time (min):*	**15.00**
Vial Number:	**3**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**27/Jan/15 14:25**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.314	0.0010084	0.013	7.16	14.12	0.0021
2		3.477	0.0002098	0.003	1.49	2.75	n.a.
3		3.751	0.0001619	0.002	1.15	1.82	n.a.
4	Cl	4.977	0.0056306	0.045	39.96	48.93	0.0187
5	NO2	6.101	0.0011376	0.007	8.07	8.06	0.0017
6		6.641	0.0001346	0.001	0.96	0.76	n.a.
7		8.327	0.0004915	0.002	3.49	1.90	n.a.
8	Br	8.677	0.0005415	0.003	3.84	3.02	0.0042
9		9.144	0.0000667	0.000	0.47	0.39	n.a.
10	SO4	9.541	0.0036415	0.013	25.85	13.69	0.0180
11	NO3	10.387	0.0010647	0.004	7.56	4.57	0.0014
Total:			**0.014**	**0.093**	**100.00**	**100.00**	

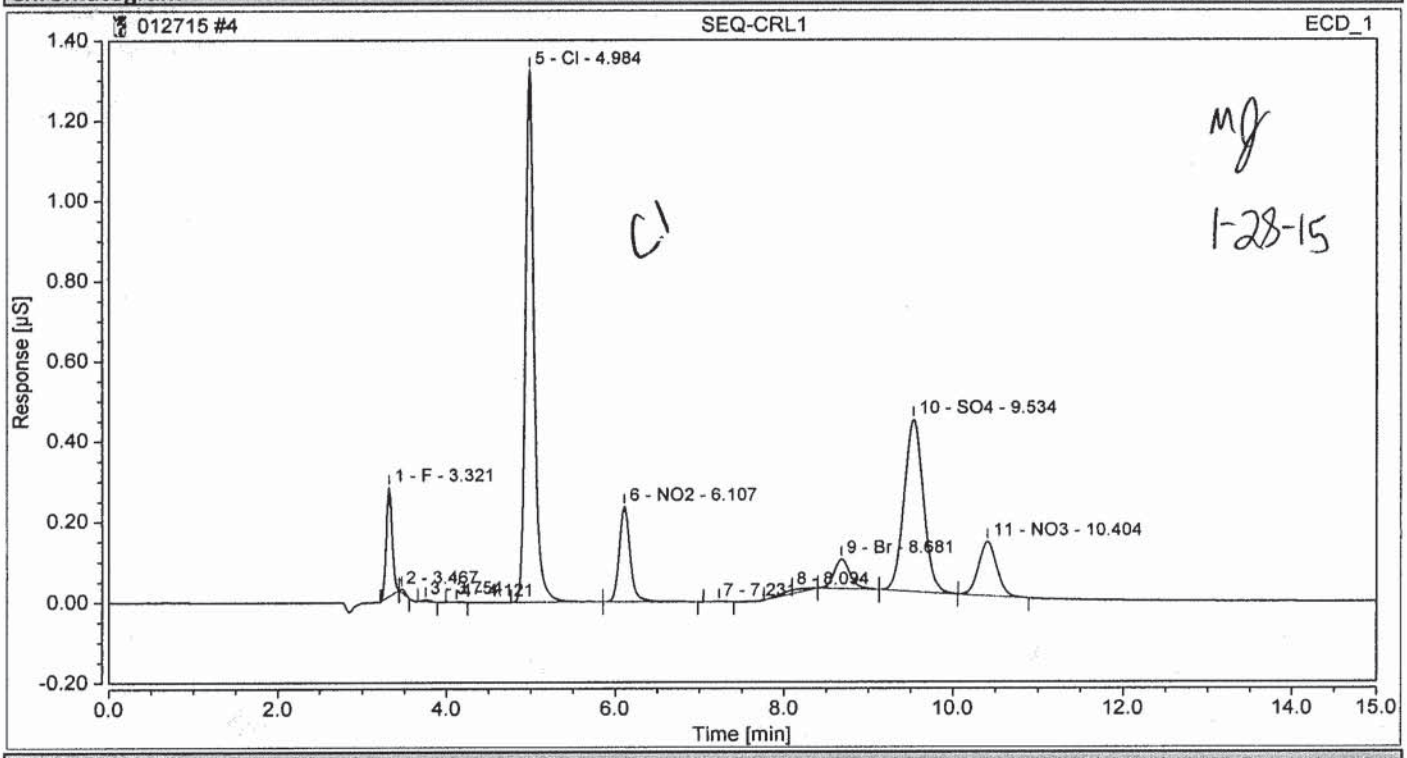
02/02/15

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CRL1**	*Run Time (min):*	**15.00**
Vial Number:	**4**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**27/Jan/15 14:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.321	0.0212142	0.270	5.52	10.86	0.0434
2		3.467	0.0005253	0.007	0.14	0.29	n.a.
3		3.754	0.0003922	0.004	0.10	0.18	n.a.
4		4.121	0.0000626	0.001	0.02	0.02	n.a.
5	Cl	4.984	0.1606248	1.326	41.77	53.25	0.5333
6	NO2	6.107	0.0351832	0.236	9.15	9.48	0.0531
7		7.231	0.0000956	0.001	0.02	0.02	n.a.
8		8.094	0.0030685	0.009	0.80	0.34	n.a.
9	Br	8.681	0.0161064	0.073	4.19	2.95	0.1252
10	SO4	9.534	0.1138288	0.428	29.60	17.21	0.5614
11	NO3	10.404	0.0334157	0.134	8.69	5.40	0.0453
Total:			**0.385**	**2.490**	**100.00**	**100.00**	

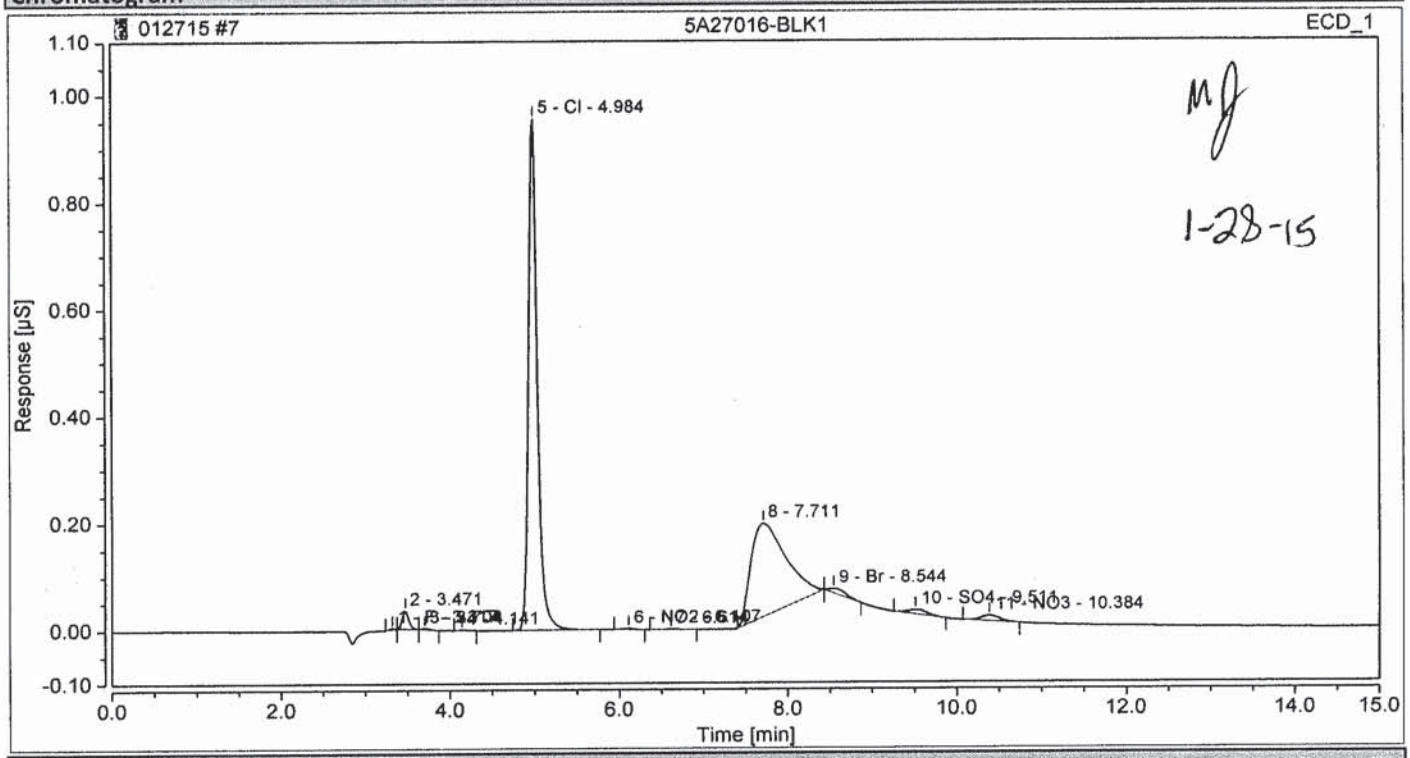
02/02/15

Chromatogram and Results

Injection Details

Injection Name:	**5A27016-BLK1**	*Run Time (min):*	**15.00**
Vial Number:	**7**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**27/Jan/15 15:36**	*Sample Weight:*	**1.0000**

Chromatogram



MJ 1-28-15

Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.317	0.0001608	0.003	0.08	0.22	0.0003
2		3.471	0.0031029	0.034	1.48	2.87	n.a.
3		3.704	0.0002192	0.002	0.10	0.17	n.a.
4		4.141	0.0000784	0.001	0.04	0.07	n.a.
5	Cl	4.984	0.1155283	0.956	55.00	79.67	0.3836
6	NO2	6.107	0.0002871	0.002	0.14	0.16	0.0004
7		6.614	0.0001431	0.001	0.07	0.06	n.a.
8		7.711	0.0836410	0.174	39.82	14.52	n.a.
9	Br	8.544	0.0021680	0.008	1.03	0.69	0.0169
10	SO4	9.511	0.0021636	0.008	1.03	0.70	0.0107
11	NO3	10.384	0.0025537	0.010	1.22	0.87	0.0035
Total:			**0.210**	**1.199**	**100.00**	**100.00**	

>LOD

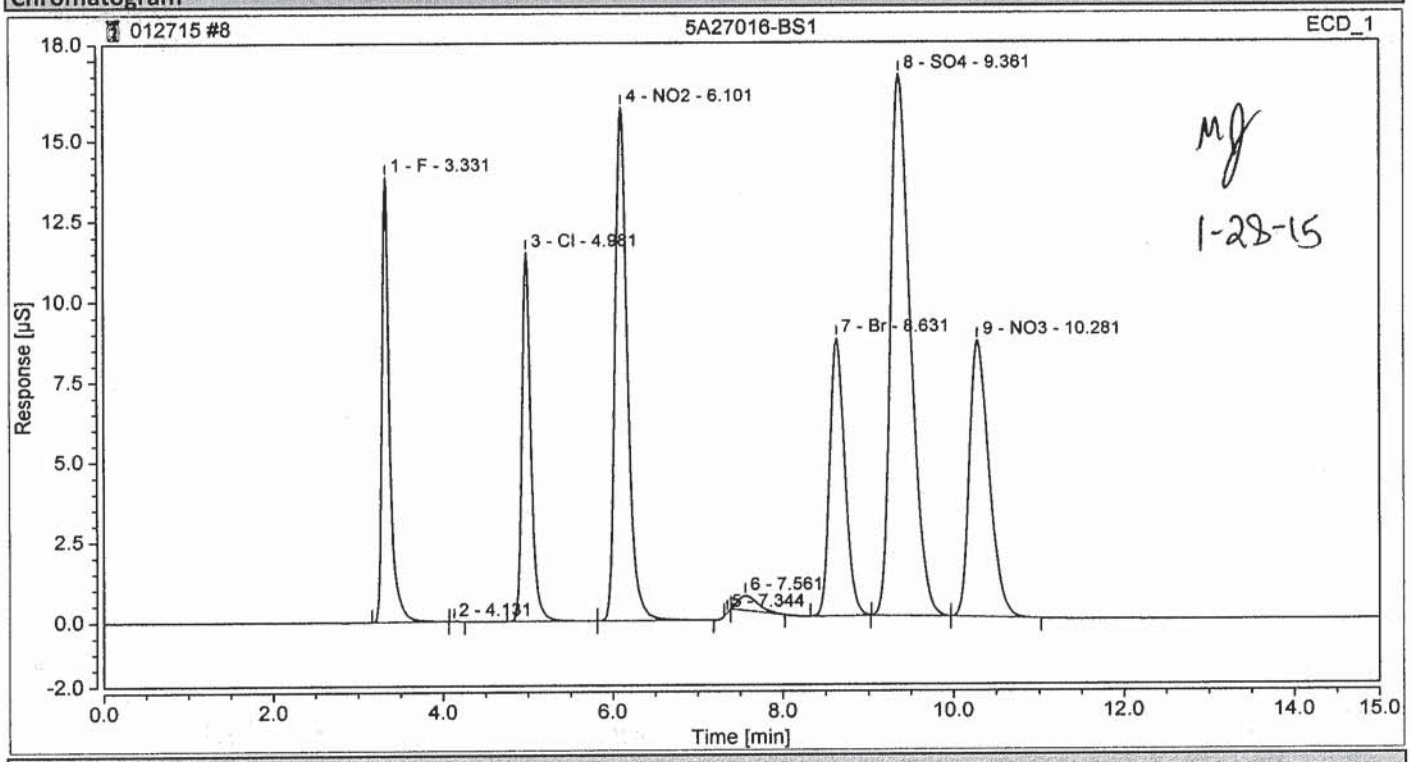
02/02/15

Chromatogram and Results

Injection Details

Injection Name:	**5A27016-BS1**	*Run Time (min):*	**15.00**
Vial Number:	**8**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**27/Jan/15 15:58**	*Sample Weight:*	**1.0000**

Chromatogram



MJ 1-28-15

Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.331	1.4080856	13.854	9.87	18.24	2.8823
2		4.131	0.0002052	0.002	0.00	0.00	n.a.
3	Cl	4.981	1.4025672	11.488	9.83	15.13	4.6572
4	NO2	6.101	2.6939096	15.976	18.88	21.04	4.0693
5		7.344	0.0001581	0.003	0.00	0.00	n.a.
6		7.561	0.1247619	0.453	0.87	0.60	n.a.
7	Br	8.631	1.7753448	8.673	12.44	11.42	13.8033
8	SO4	9.361	4.5636139	16.866	31.98	22.21	22.5090
9	NO3	10.281	2.3007002	8.632	16.12	11.37	3.1194
Total:			**14.269**	**75.948**	**100.00**	**100.00**	

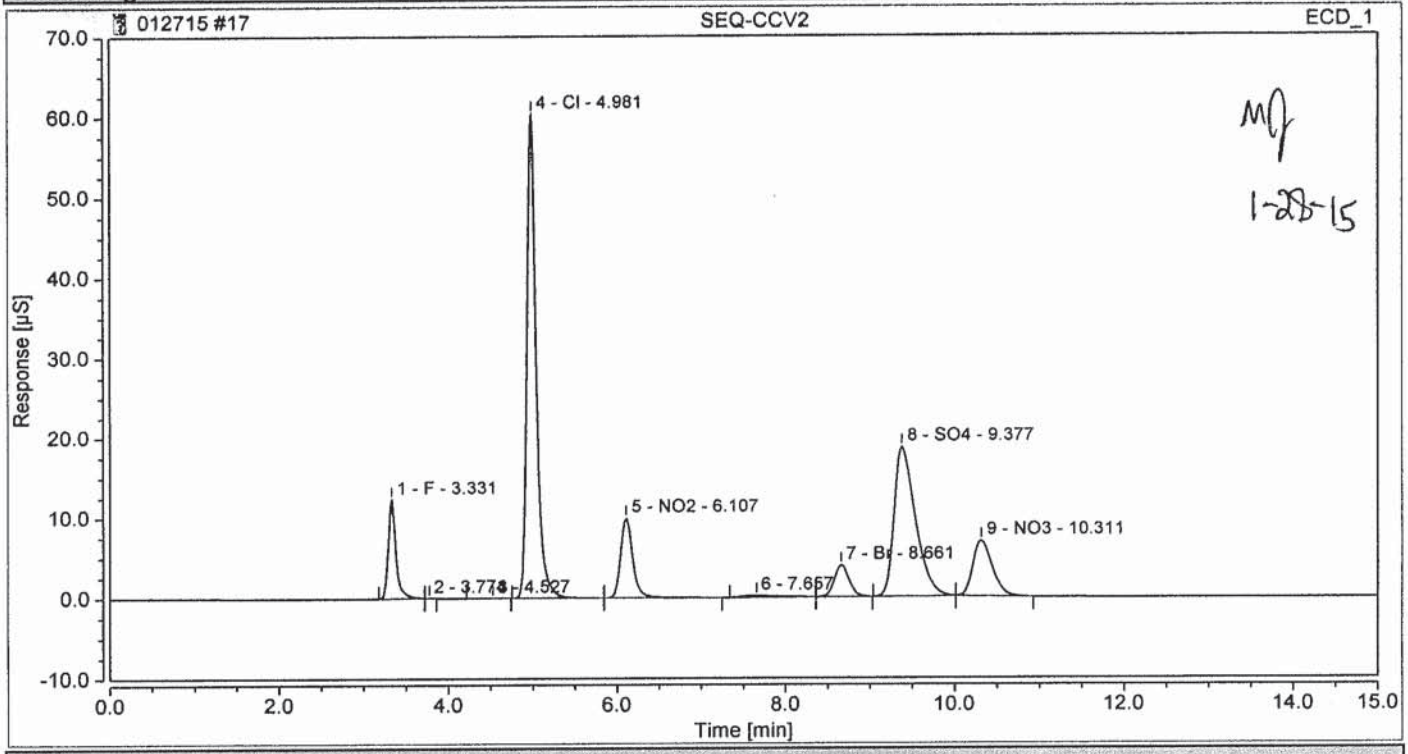
02/02/15

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CCV2**	*Run Time (min):*	**15.00**
Vial Number:	**17**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**27/Jan/15 18:38**	*Sample Weight:*	**1.0000**

Chromatogram



MJ 1-28-15

Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.331	1.2658981	12.340	6.75	10.99	2.5913
2		3.774	0.0004048	0.005	0.00	0.00	n.a.
3		4.527	0.0003852	0.001	0.00	0.00	n.a.
4	Cl	4.981	7.6833889	60.346	40.98	53.75	25.5123
5	NO2	6.107	1.6490141	9.927	8.80	8.84	2.4910
6		7.657	0.1030652	0.212	0.55	0.19	n.a.
7	Br	8.661	0.7948320	3.925	4.24	3.50	6.1798
8	SO4	9.377	5.4264398	18.646	28.94	16.61	26.7647
9	NO3	10.311	1.8253097	6.881	9.74	6.13	2.4749
Total:			**18.749**	**112.283**	**100.00**	**100.00**	

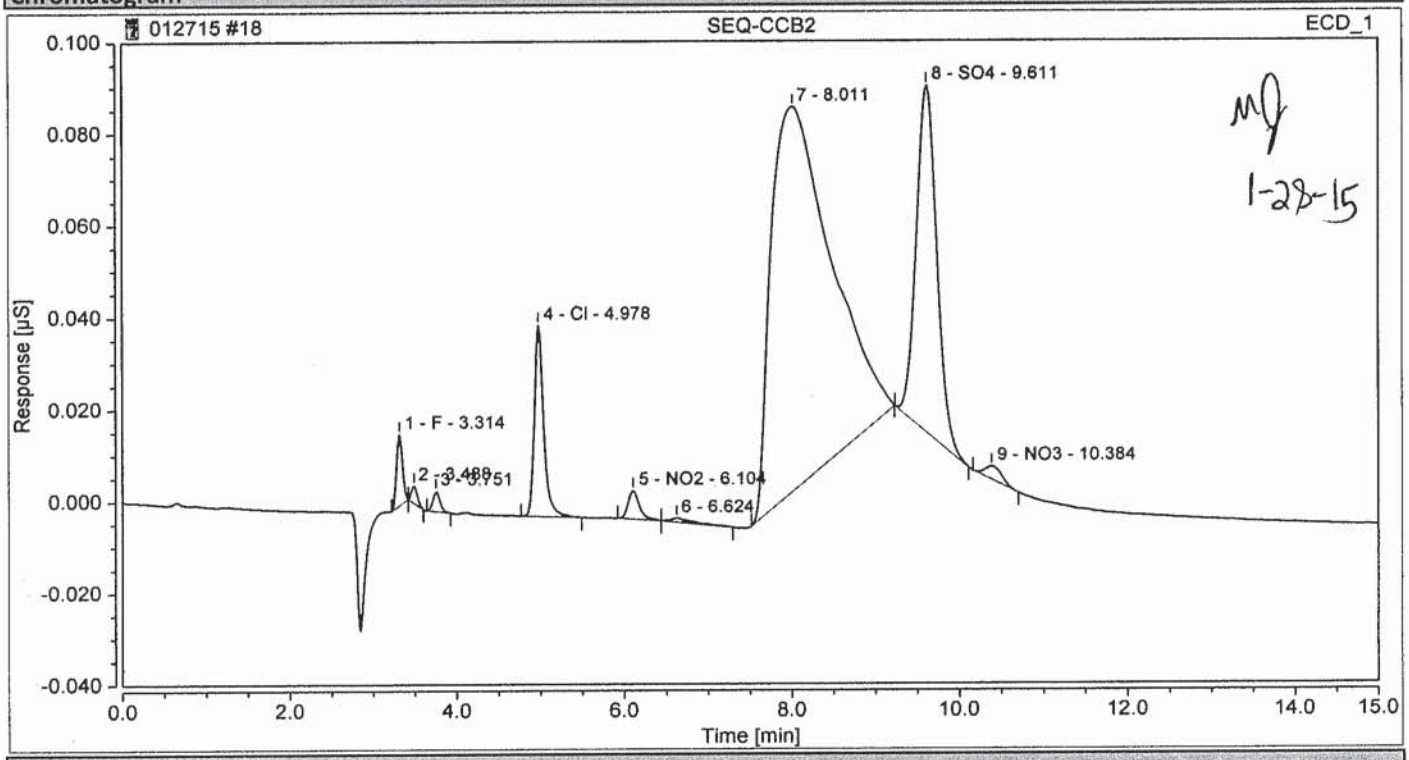
02/02/15

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CCB2**	*Run Time (min):*	**15.00**
Vial Number:	**18**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**27/Jan/15 18:56**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.314	0.0012245	0.015	1.23	6.60	0.0025
2		3.488	0.0003210	0.004	0.32	1.63	n.a.
3		3.751	0.0004362	0.004	0.44	1.89	n.a.
4	Cl	4.978	0.0053227	0.042	5.34	17.73	0.0177
5	NO2	6.104	0.0009750	0.006	0.98	2.67	0.0015
6		6.624	0.0002687	0.001	0.27	0.39	n.a.
7		8.011	0.0690211	0.084	69.29	35.67	n.a.
n.a.	Br	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
8	SO4	9.611	0.0213660	0.075	21.45	32.20	0.1054
9	NO3	10.384	0.0006832	0.003	0.69	1.23	0.0009
Total:			**0.100**	**0.234**	**100.00**	**100.00**	

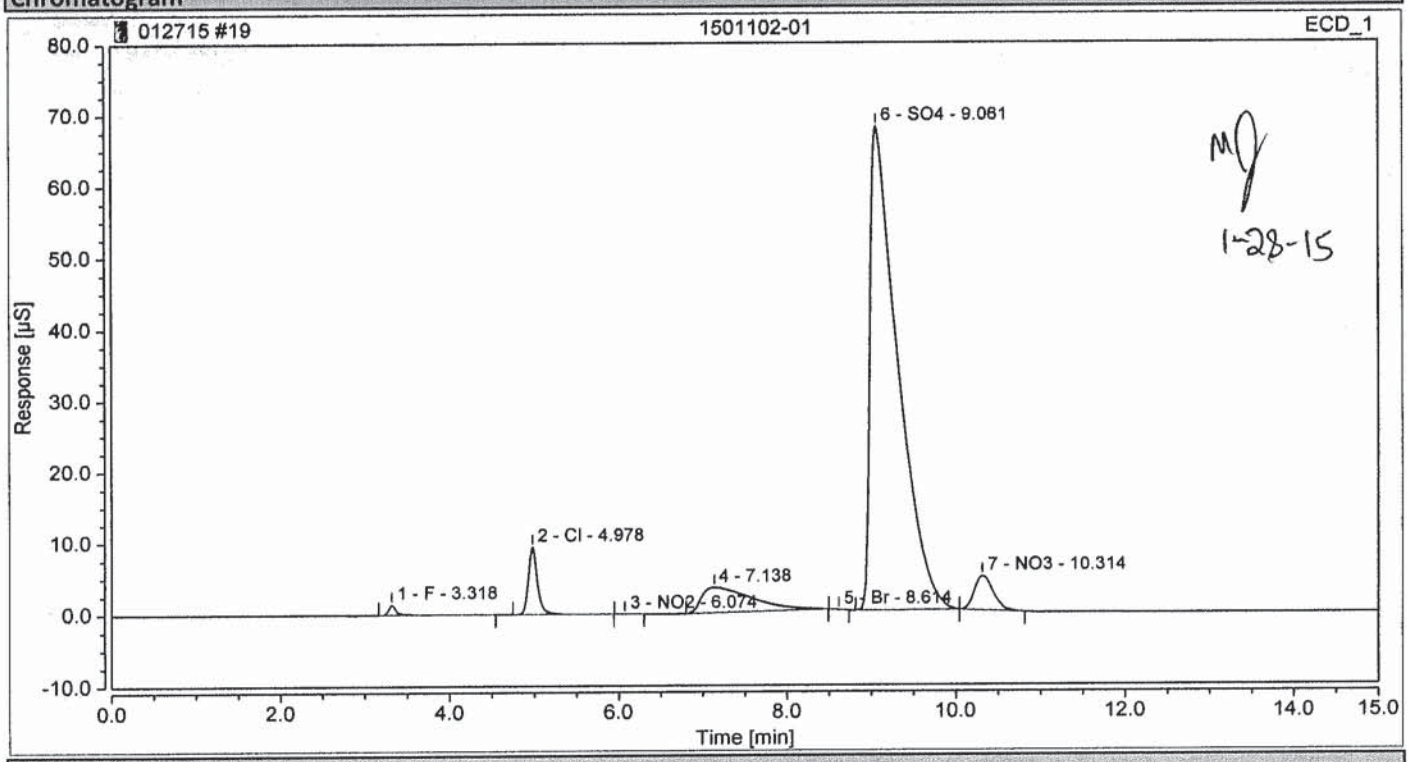
02/02/15

Chromatogram and Results

Injection Details

Injection Name:	**1501102-01**	*Run Time (min):*	**15.00**
Vial Number:	**19**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**27/Jan/15 19:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.318	0.1480967	1.417	0.48	1.63	0.3032
2	Cl	4.978	1.1692315	9.393	3.83	10.81	3.8824
3	NO2	6.074	0.0003536	0.003	0.00	0.00	0.0005
4		7.138	2.4551077	3.520	8.04	4.05	n.a.
5	Br	8.614	0.0008512	0.006	0.00	0.01	0.0066
6	SO4	9.061	25.5384561	67.798	83.62	78.02	125.9628
7	NO3	10.314	1.2272587	4.762	4.02	5.48	1.6640
Total:			**30.539**	**86.900**	**100.00**	**100.00**	

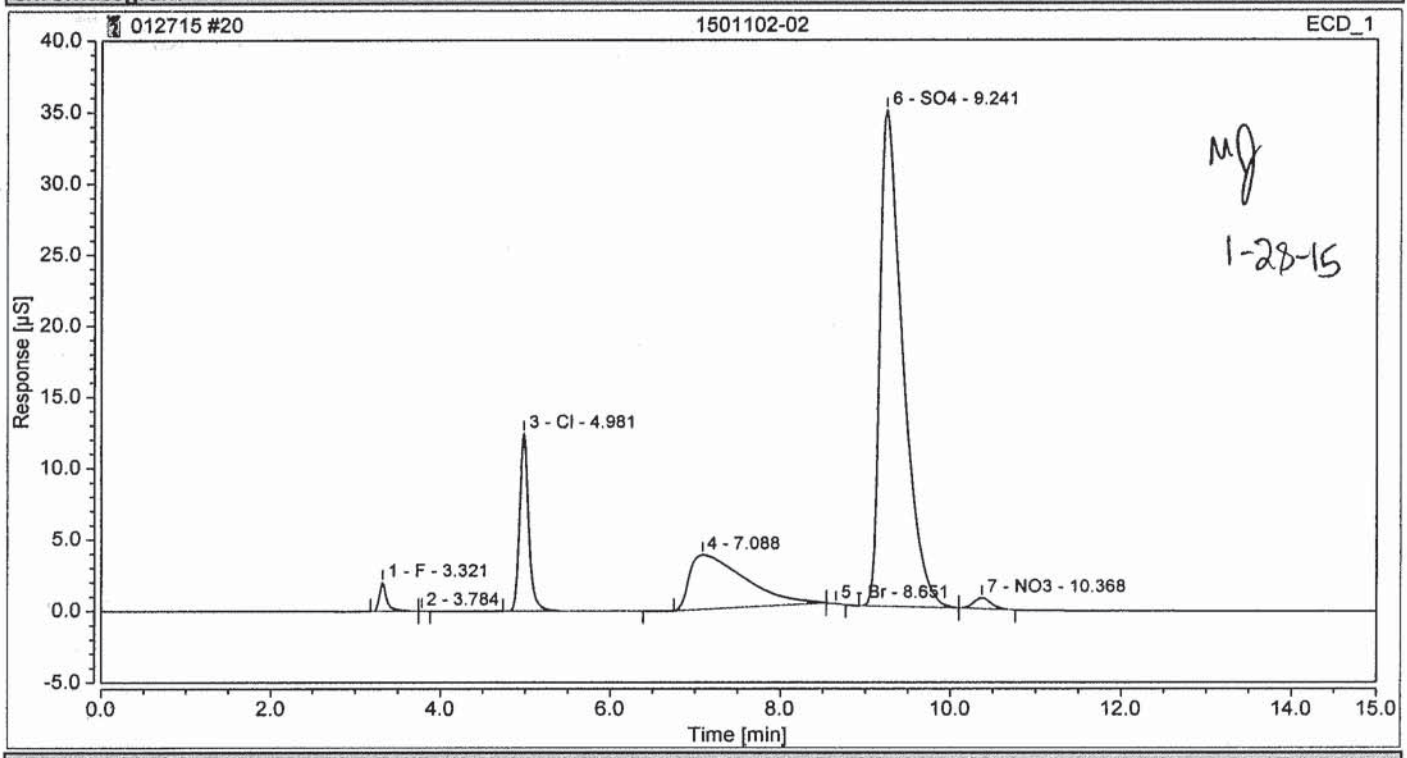
02/02/15

Chromatogram and Results

Injection Details

Injection Name:	**1501102-02**	*Run Time (min):*	**15.00**
Vial Number:	**20**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**27/Jan/15 19:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.321	0.2025646	2.004	1.29	3.72	0.4146
2		3.784	0.0002101	0.002	0.00	0.00	n.a.
3	Cl	4.981	1.5527458	12.441	9.90	23.12	5.1558
n.a.	NO2	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4		7.088	2.8633013	3.813	18.26	7.09	n.a.
5	Br	8.651	0.0005405	0.004	0.00	0.01	0.0042
6	SO4	9.241	10.8758637	34.787	69.37	64.65	53.6428
7	NO3	10.368	0.1838011	0.760	1.17	1.41	0.2492
Total:			**15.679**	**53.812**	**100.00**	**100.00**	

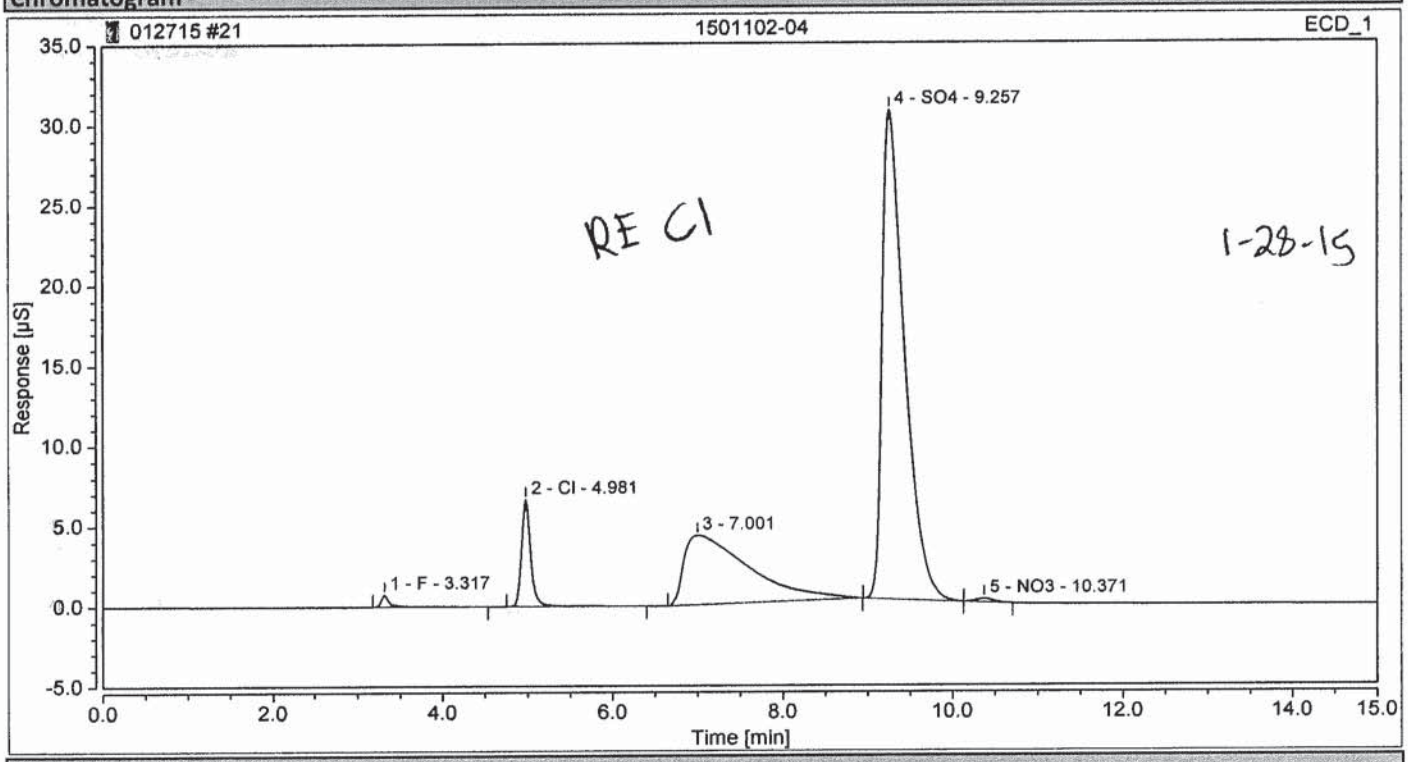
02/02/15

Chromatogram and Results

Injection Details

Injection Name:	**1501102-04**	*Run Time (min):*	**15.00**
Vial Number:	**21**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**27/Jan/15 19:50**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.317	0.0822800	0.756	0.58	1.78	0.1684
2	Cl	4.981	0.8231425	6.651	5.85	15.69	2.7332
n.a.	NO2	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3		7.001	3.8155159	4.317	27.10	10.18	n.a.
n.a.	Br	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4	SO4	9.257	9.3073527	30.443	66.10	71.81	45.9065
5	NO3	10.371	0.0527253	0.227	0.37	0.54	0.0715
Total:			**14.081**	**42.394**	**100.00**	**100.00**	

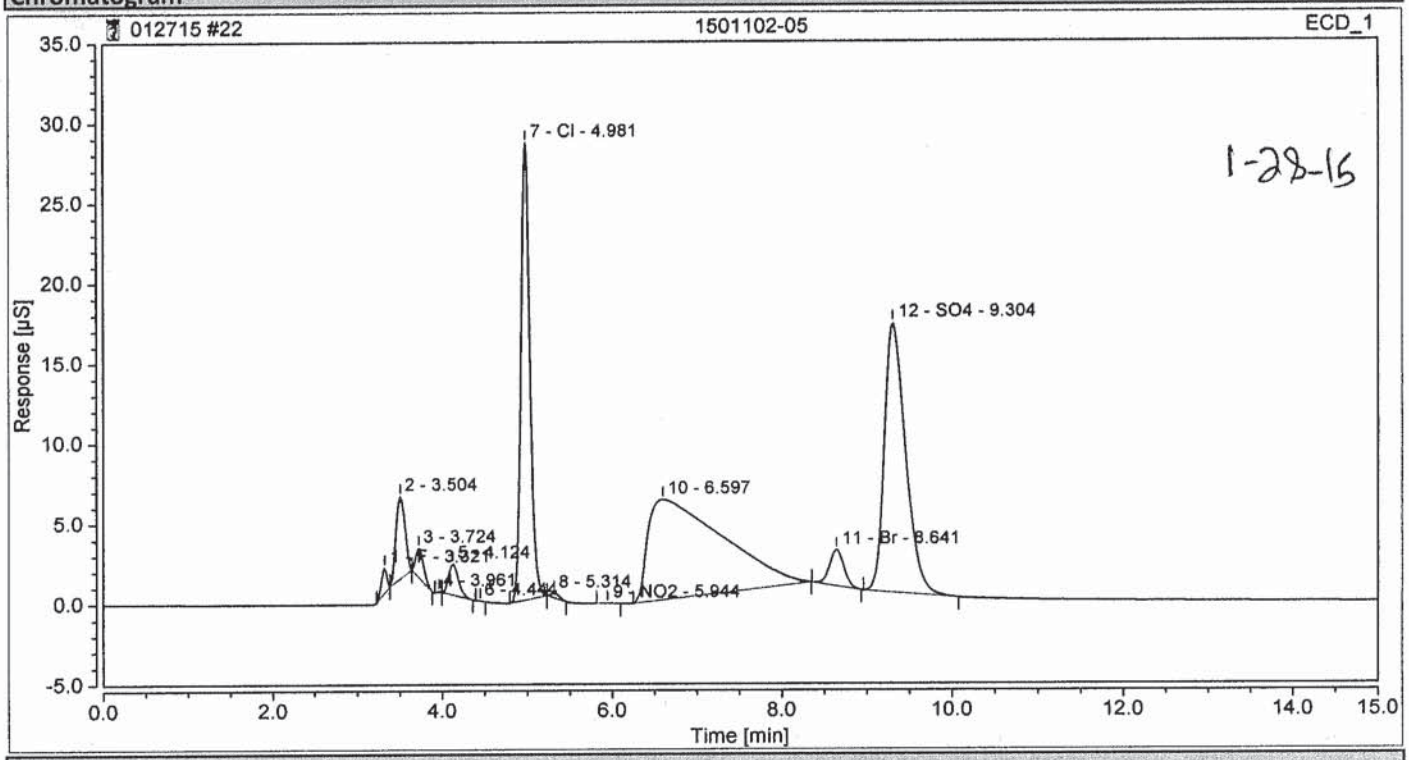
02/02/15

Chromatogram and Results

Injection Details

Injection Name:	**1501102-05**	*Run Time (min):*	**15.00**
Vial Number:	**22**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**27/Jan/15 20:07**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.321	0.1173535	1.576	0.72	2.44	0.2402
2		3.504	0.6356463	5.130	3.91	7.95	n.a.
3		3.724	0.1979815	1.834	1.22	2.84	n.a.
4		3.961	0.0026530	0.056	0.02	0.09	n.a.
5		4.124	0.2617455	1.941	1.61	3.01	n.a.
6		4.444	0.0007437	0.011	0.00	0.02	n.a.
7	Cl	4.981	3.4675830	28.479	21.30	44.11	11.5139
8		5.314	0.0336230	0.281	0.21	0.43	n.a.
9	NO2	5.944	0.0008459	0.006	0.01	0.01	0.0013
10		6.597	6.2917787	6.240	38.65	9.67	n.a.
11	Br	8.641	0.4398863	2.247	2.70	3.48	3.4201
12	SO4	9.304	4.8273787	16.760	29.66	25.96	23.8100
n.a.	NO3	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**16.277**	**64.561**	**100.00**	**100.00**	

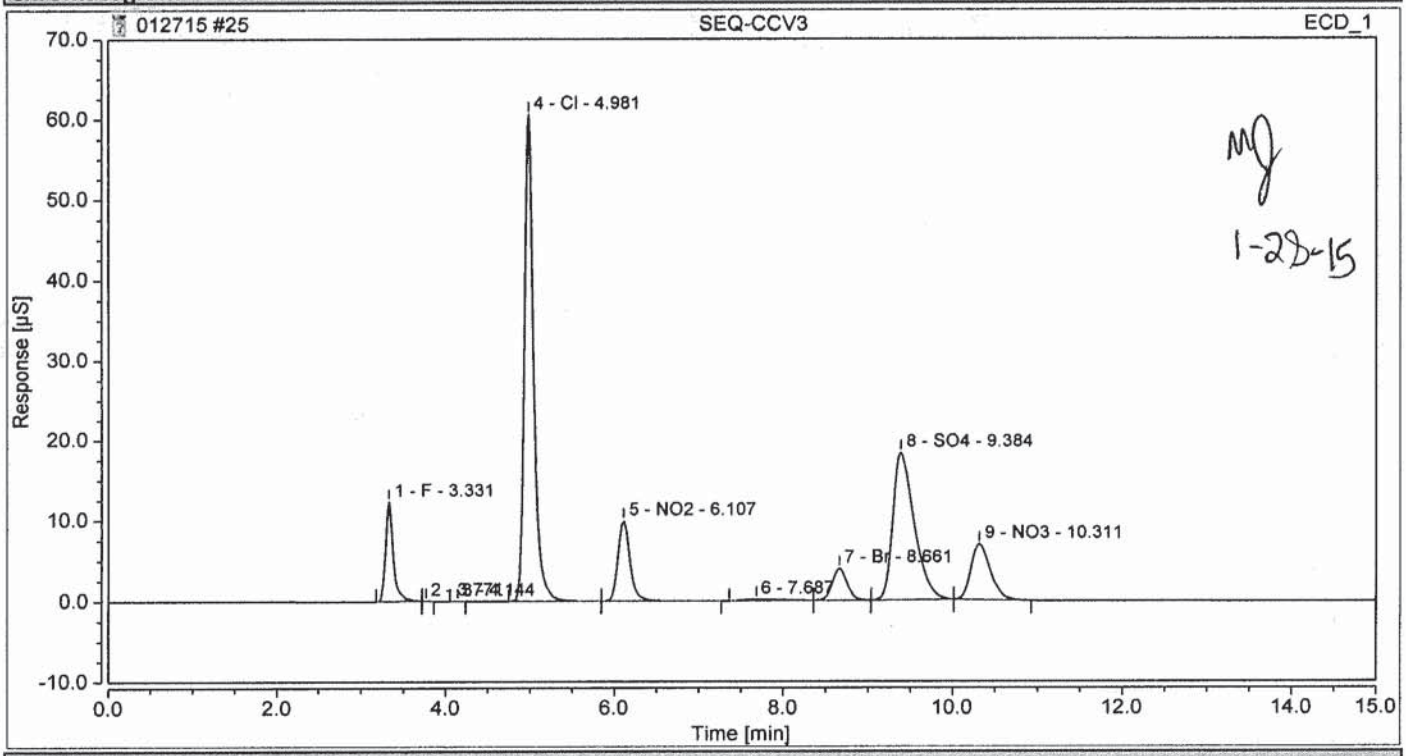
02/02/15

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CCV3**	*Run Time (min):*	**15.00**
Vial Number:	**25**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**27/Jan/15 21:01**	*Sample Weight:*	**1.0000**

Chromatogram



MJ
1-28-15

Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.331	1.2818421	12.302	6.84	10.98	2.6239
2		3.771	0.0004401	0.006	0.00	0.01	n.a.
3		4.144	0.0000914	0.001	0.00	0.00	n.a.
4	Cl	4.981	7.7396468	60.541	41.31	54.05	25.6991
5	NO2	6.107	1.6522730	9.913	8.82	8.85	2.4959
6		7.687	0.0873483	0.178	0.47	0.16	n.a.
7	Br	8.661	0.7987460	3.928	4.26	3.51	6.2103
8	SO4	9.384	5.3429534	18.252	28.52	16.30	26.3529
9	NO3	10.311	1.8308331	6.882	9.77	6.14	2.4824
Total:			**18.734**	**112.002**	**100.00**	**100.00**	

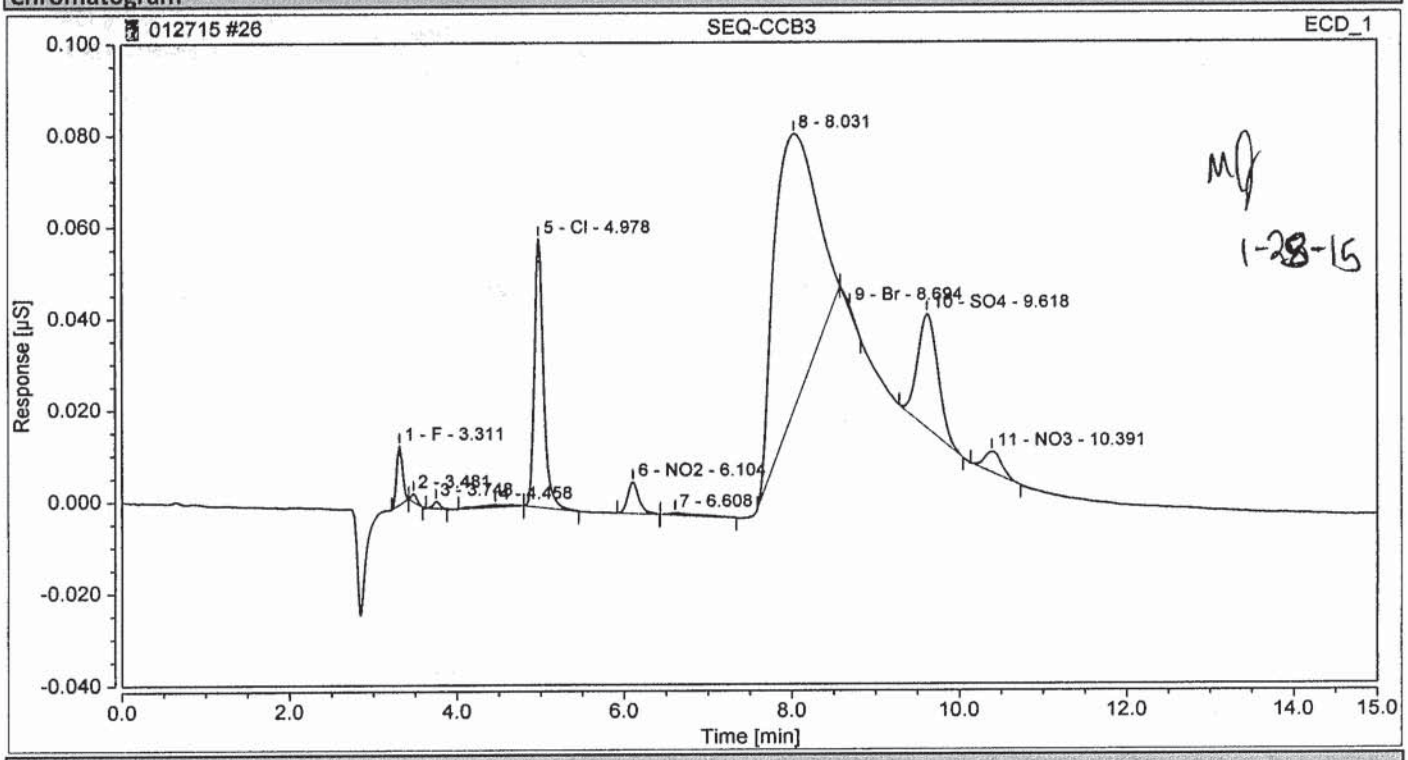
02/02/15

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CCB3**	*Run Time (min):*	**15.00**
Vial Number:	**26**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**27/Jan/15 21:19**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.311	0.0010363	0.013	1.95	7.43	0.0021
2		3.481	0.0001505	0.002	0.28	1.07	n.a.
3		3.748	0.0001447	0.002	0.27	0.90	n.a.
4		4.458	0.0002533	0.001	0.48	0.31	n.a.
5	Cl	4.978	0.0073943	0.059	13.94	33.77	0.0246
6	NO2	6.104	0.0010816	0.007	2.04	3.98	0.0016
7		6.608	0.0002157	0.001	0.41	0.32	n.a.
8		8.031	0.0345527	0.060	65.13	34.65	n.a.
9	Br	8.694	0.0001427	0.001	0.27	0.62	0.0011
10	SO4	9.618	0.0070108	0.025	13.22	14.39	0.0346
11	NO3	10.391	0.0010686	0.004	2.01	2.57	0.0014
Total:			**0.053**	**0.174**	**100.00**	**100.00**	

02/02/15

Sequence Overview

Sequence Details

Name:	**020315**	*Created On:*	**26/Mar/14 13:54:45**
Directory:	**Instrument Data_ICS-2100\2015\Feb2015**	*Created By:*	**Thermo Elctron NA**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**03/Feb/15 16:52:31**
No. of Injections:	**22**	*Updated By:*	**NSH-IONC2**

Injection Details

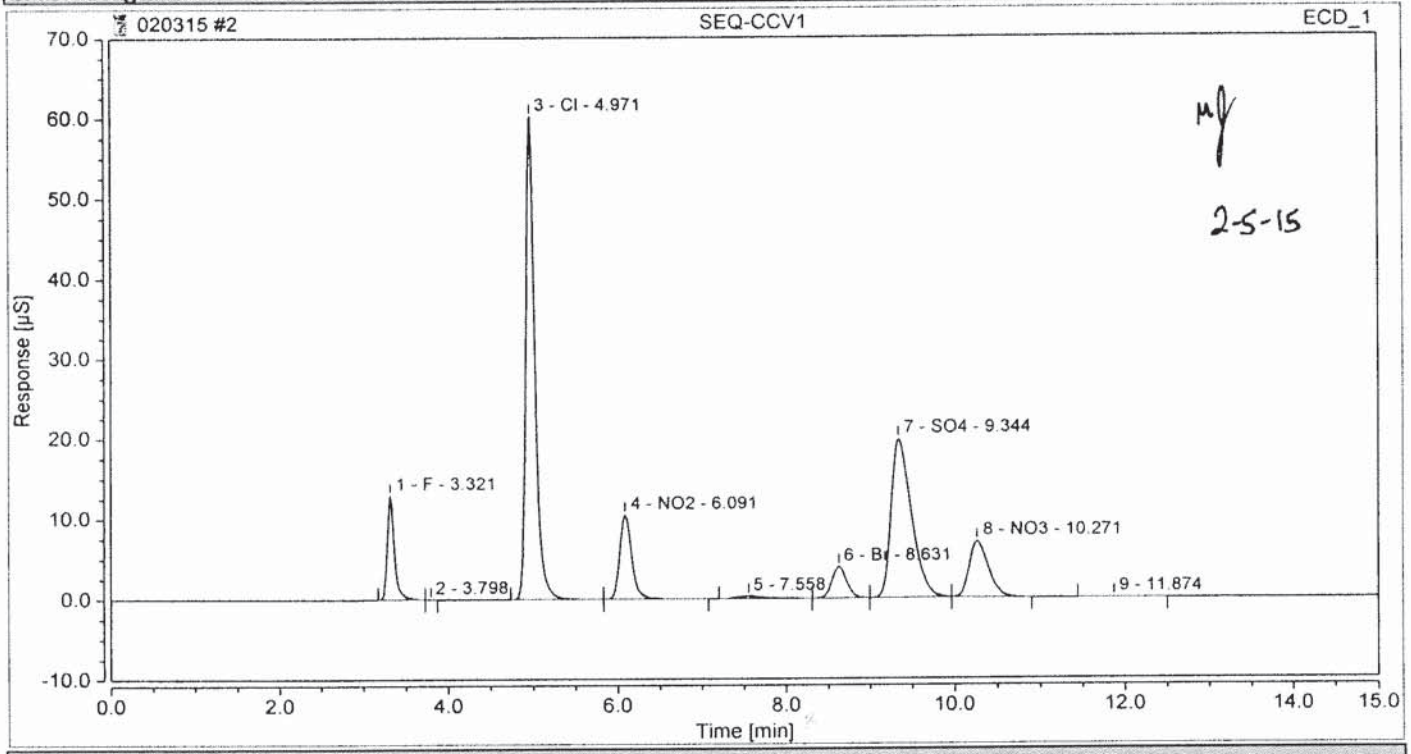
No.	Injection Name	Position	Type	Level	Inject Time	Status
1	BLANK	1	Unknown		03/Feb/15 10:20:57	Finished
2	SEQ-CCV1	2	Unknown		03/Feb/15 10:38:59	Finished
3	SEQ-CCB1	3	Unknown		03/Feb/15 10:56:49	Finished
4	SEQ-CRL1	4	Unknown		03/Feb/15 11:14:39	Finished
5	SEQ-CRL2	5	Unknown		03/Feb/15 11:32:30	Finished
6	SEQ-CRL3	6	Unknown		03/Feb/15 11:50:19	Finished
7	5B03415-BLK1	7	Unknown		03/Feb/15 12:08:09	Finished
8	5B03415-BS1	8	Unknown		03/Feb/15 12:26:00	Finished
9	1502006-01	9	Unknown		03/Feb/15 12:43:50	Finished
10	1502006-02	10	Unknown		03/Feb/15 13:01:40	Finished
11	1501076-01	11	Unknown		03/Feb/15 13:19:30	Finished
12	1501076-03	12	Unknown		03/Feb/15 13:37:21	Finished
13	1501076-05	13	Unknown		03/Feb/15 13:55:12	Finished
14	5B03415-MS1	14	Unknown		03/Feb/15 14:13:02	Finished
15	5B03415-MSD1	15	Unknown		03/Feb/15 14:30:53	Finished
16	5B03415-DUP1	16	Unknown		03/Feb/15 14:48:43	Finished
17	1501076-07	17	Unknown		03/Feb/15 15:06:33	Finished
18	1501076-09	18	Unknown		03/Feb/15 15:24:23	Finished
19	1501102-04RE1	19	Unknown		03/Feb/15 15:42:15	Finished
20	SEQ-CCV2	20	Unknown		03/Feb/15 16:00:06	Finished
21	SEQ-CCB2	21	Unknown		03/Feb/15 16:17:56	Finished
22	BLANK	22	Unknown		03/Feb/15 16:35:46	Finished

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CCV1**	*Run Time (min):*	**15.00**
Vial Number:	**2**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/15 10:38**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.321	1.2614690	12.948	6.73	11.30	2.5822
2		3.798	0.0003316	0.004	0.00	0.00	n.a.
3	Cl	4.971	7.5284796	60.183	40.14	52.53	24.9979
4	NO2	6.091	1.7117475	10.465	9.13	9.13	2.5857
5		7.558	0.1126906	0.314	0.60	0.27	n.a.
6	Br	8.631	0.7872707	3.912	4.20	3.41	6.1210
7	SO4	9.344	5.5236123	19.763	29.45	17.25	27.2440
8	NO3	10.271	1.8222188	6.969	9.72	6.08	2.4707
9		11.874	0.0070769	0.019	0.04	0.02	n.a.
Total:			**18.755**	**114.577**	**100.00**	**100.00**	

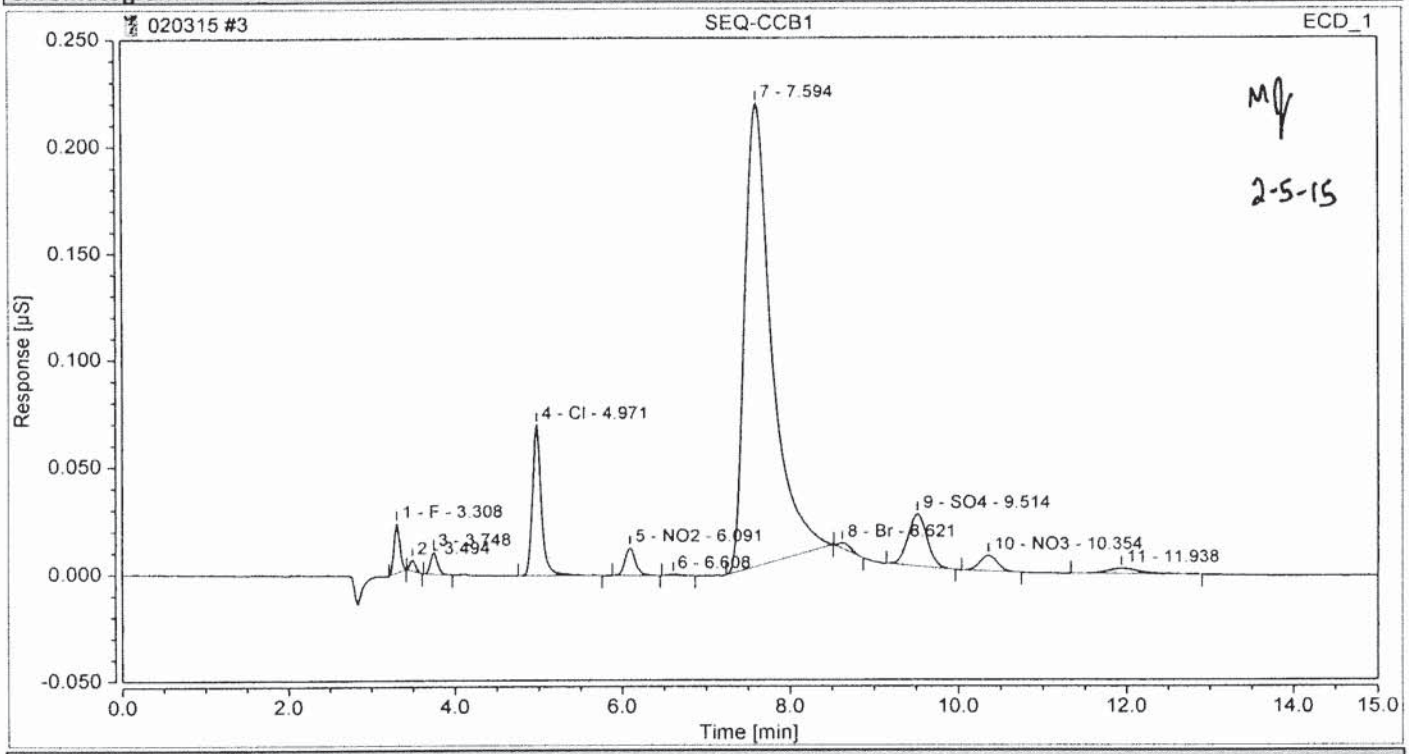
02/06/15

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CCB1**	*Run Time (min):*	**15.00**
Vial Number:	**3**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/15 10:56**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.308	0.0018094	0.023	1.73	6.13	0.0037
2		3.494	0.0004158	0.005	0.40	1.38	n.a.
3		3.748	0.0010321	0.010	0.99	2.79	n.a.
4	Cl	4.971	0.0087268	0.070	8.34	18.68	0.0290
5	NO2	6.091	0.0019198	0.013	1.83	3.45	0.0029
6		6.608	0.0001085	0.001	0.10	0.17	n.a.
7		7.594	0.0808109	0.216	77.22	57.64	n.a.
8	Br	8.621	0.0004892	0.003	0.47	0.71	0.0038
9	SO4	9.514	0.0063516	0.024	6.07	6.44	0.0313
10	NO3	10.354	0.0017943	0.007	1.71	1.94	0.0024
11		11.938	0.0011900	0.003	1.14	0.68	n.a.
Total:			**0.105**	**0.375**	**100.00**	**100.00**	

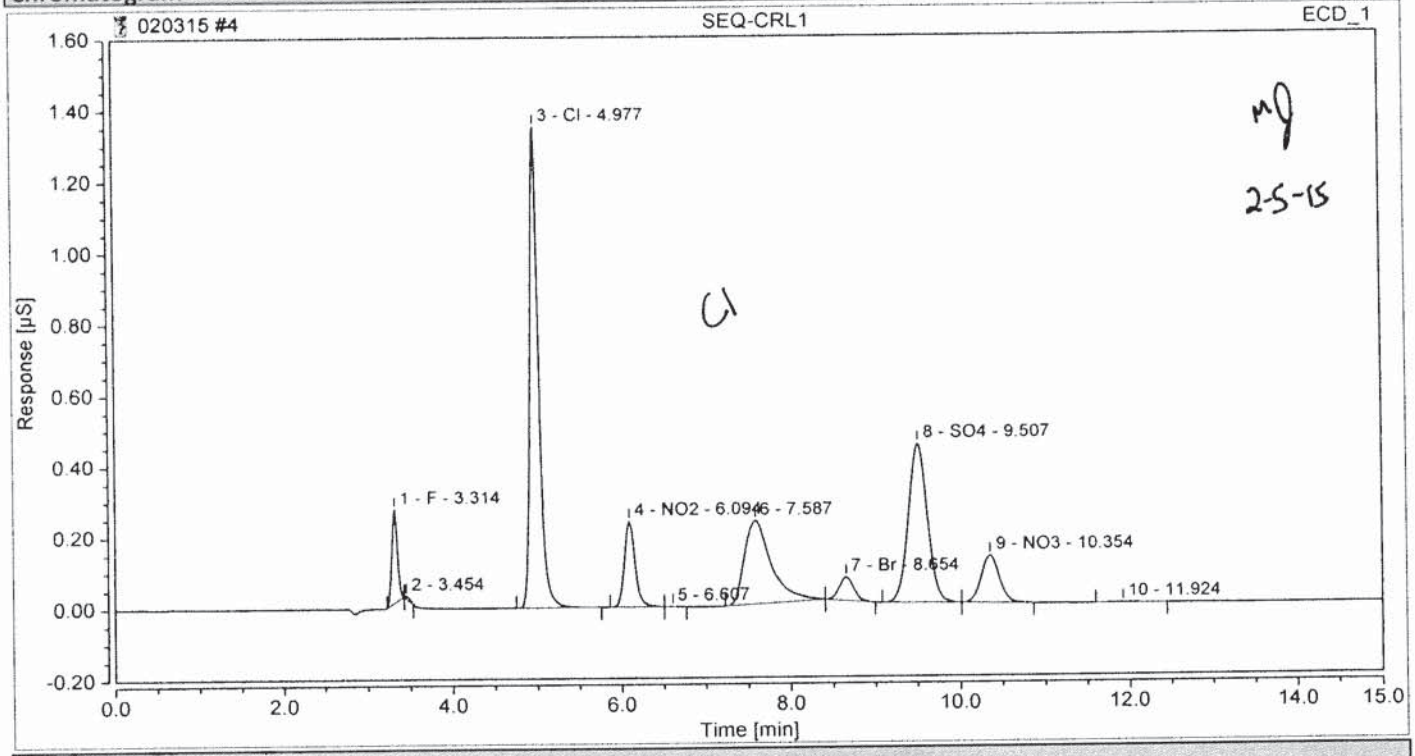
02/06/15

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CRL1**	*Run Time (min):*	**15.00**
Vial Number:	**4**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/15 11:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.314	0.0203228	0.262	4.34	9.57	0.0416
2		3.454	0.0005330	0.008	0.11	0.28	n.a.
3	Cl	4.977	0.1640844	1.351	35.04	49.24	0.5448
4	NO2	6.094	0.0351133	0.241	7.50	8.78	0.0530
5		6.607	0.0000819	0.001	0.02	0.02	n.a.
6		7.587	0.0858687	0.234	18.34	8.54	n.a.
7	Br	8.654	0.0131070	0.066	2.80	2.40	0.1019
8	SO4	9.507	0.1162887	0.447	24.83	16.30	0.5736
9	NO3	10.354	0.0324908	0.133	6.94	4.83	0.0441
10		11.924	0.0003930	0.001	0.08	0.04	n.a.
Total:			**0.468**	**2.743**	**100.00**	**100.00**	

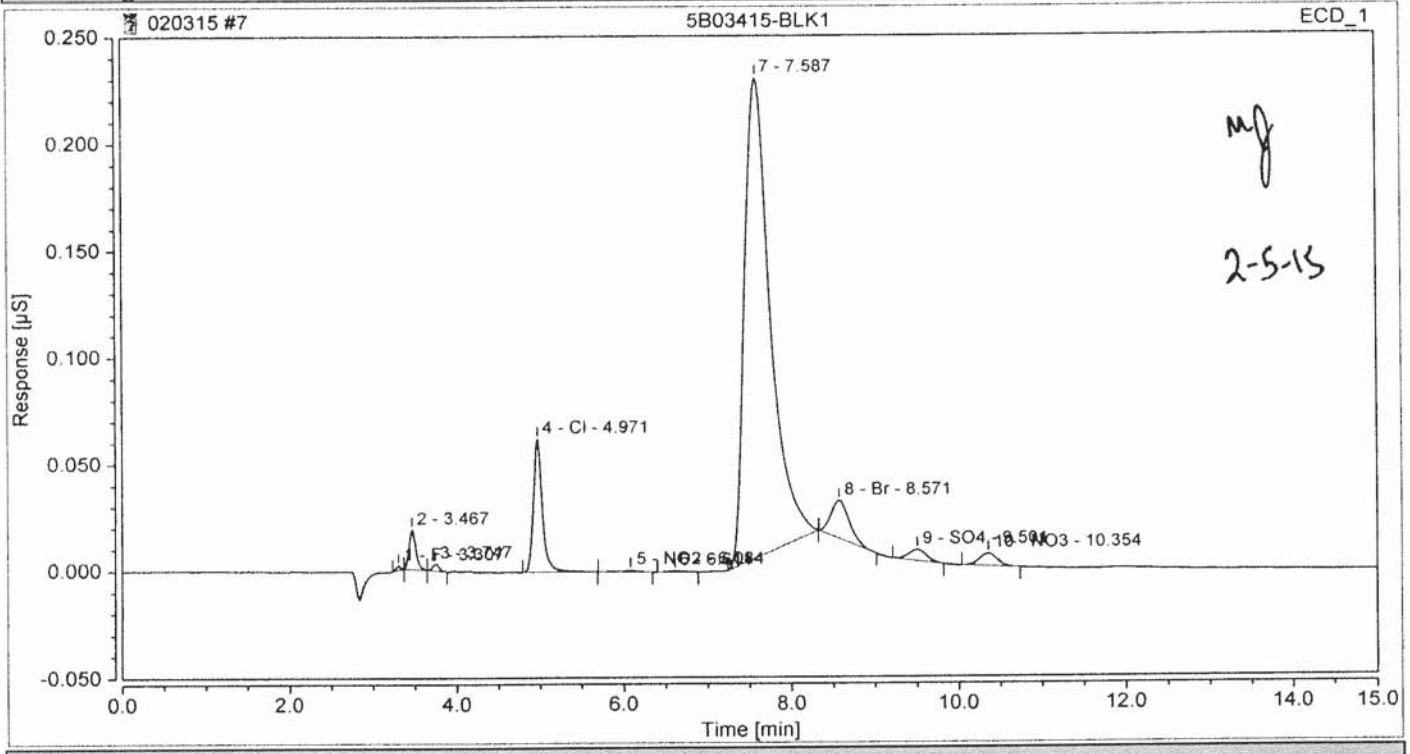
02/06/15

Chromatogram and Results

Injection Details

Injection Name:	**5B03415-BLK1**	*Run Time (min):*	**15.00**
Vial Number:	**7**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/15 12:08**	*Sample Weight:*	**1.0000**

Chromatogram



MJ

2-5-15

Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.307	0.0001337	0.002	0.14	0.60	0.0003
2		3.467	0.0017382	0.019	1.78	5.44	n.a.
3		3.747	0.0002907	0.003	0.30	0.94	n.a.
4	Cl	4.971	0.0077680	0.062	7.94	18.30	0.0258
5	NO2	6.084	0.0001483	0.001	0.15	0.21	0.0002
6		6.611	0.0001069	0.001	0.11	0.16	n.a.
7		7.587	0.0802803	0.225	82.10	65.91	n.a.
8	Br	8.571	0.0045759	0.018	4.68	5.21	0.0356
9	SO4	9.501	0.0012855	0.005	1.31	1.51	0.0063
10	NO3	10.354	0.0014542	0.006	1.49	1.72	0.0020
Total:			**0.098**	**0.341**	**100.00**	**100.00**	

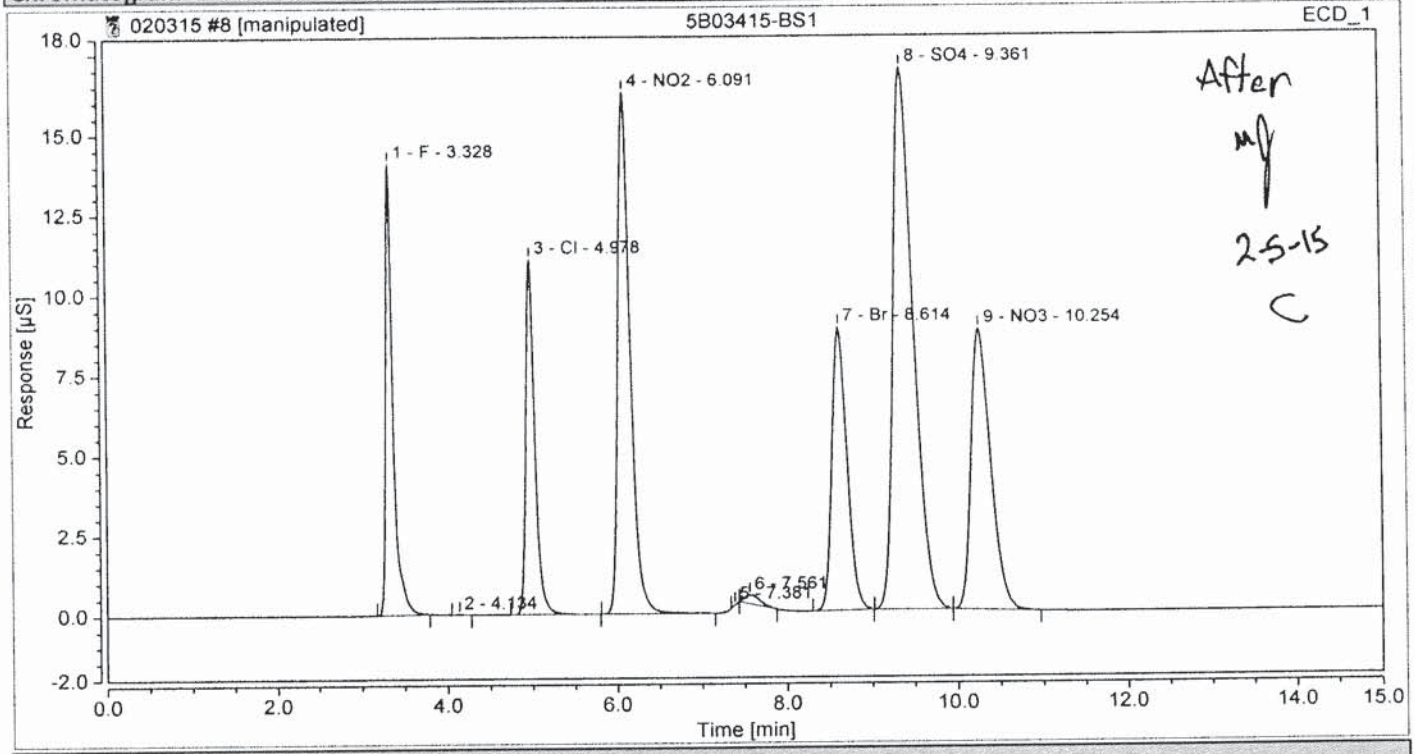
02/06/15

Chromatogram and Results

Injection Details

Injection Name:	**5B03415-BS1**	*Run Time (min):*	**15.00**
Vial Number:	**8**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/15 12:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.328	1.4348244	14.092	9.97	18.49	2.9371
2		4.134	0.0003179	0.003	0.00	0.00	n.a.
3	Cl	4.978	1.3616380	11.074	9.46	14.53	4.5213
4	NO2	6.091	2.7488211	16.269	19.11	21.34	4.1523
5		7.381	0.0000831	0.002	0.00	0.00	n.a.
6		7.561	0.0575629	0.263	0.40	0.35	n.a.
7	Br	8.614	1.8217371	8.850	12.66	11.61	14.1640
8	SO4	9.361	4.6346508	16.911	32.21	22.19	22.8594
9	NO3	10.254	2.3271452	8.762	16.18	11.49	3.1553
Total:			**14.387**	**76.226**	**100.00**	**100.00**	

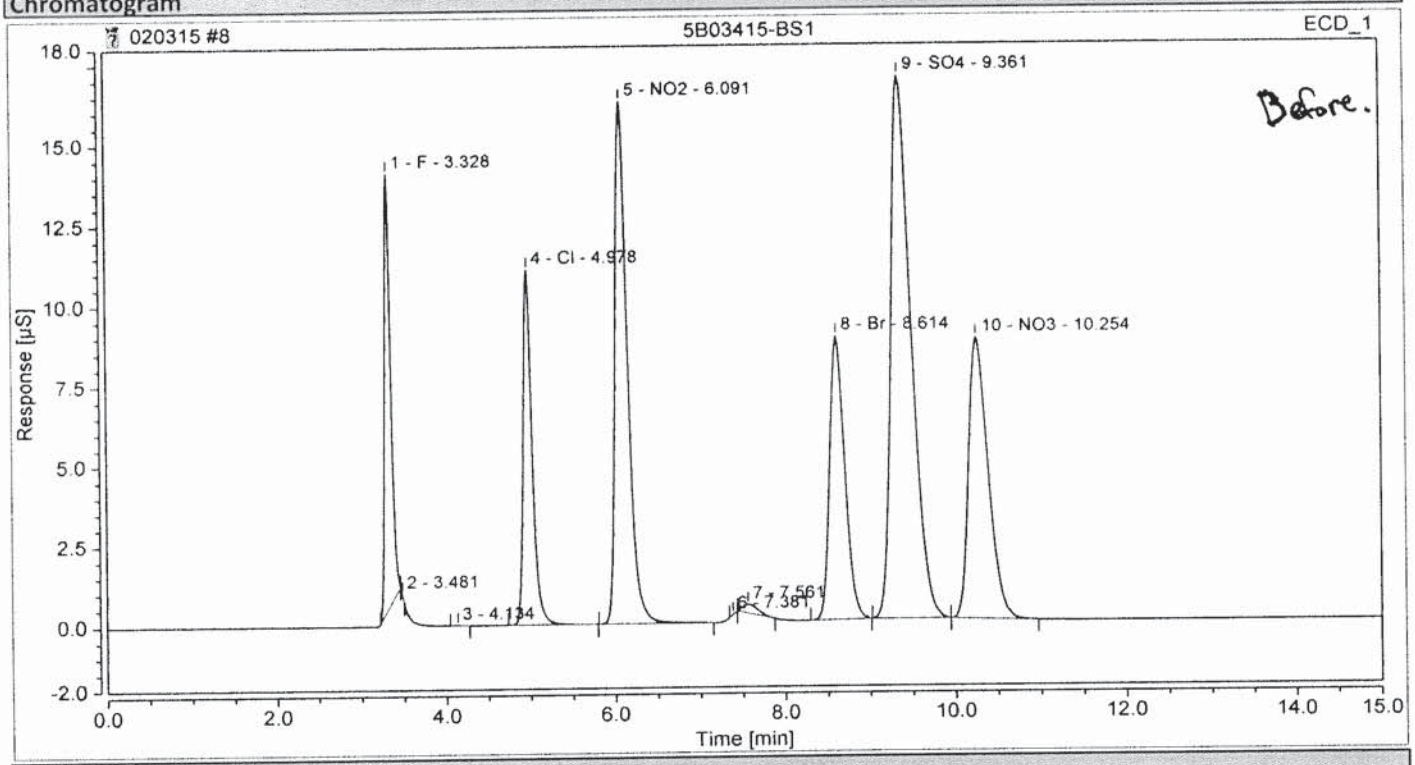
02/06/15

Chromatogram and Results

Injection Details

Injection Name:	**5B03415-BS1**	*Run Time (min):*	**15.00**
Vial Number:	**8**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/15 12:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.328	1.1993825	13.517	8.48	17.87	2.4551
2		3.481	0.0002490	0.010	0.00	0.01	n.a.
3		4.134	0.0003179	0.003	0.00	0.00	n.a.
4	Cl	4.978	1.3616380	11.074	9.62	14.64	4.5213
5	NO2	6.091	2.7488211	16.269	19.42	21.50	4.1523
6		7.381	0.0000831	0.002	0.00	0.00	n.a.
7		7.561	0.0575629	0.263	0.41	0.35	n.a.
8	Br	8.614	1.8217371	8.850	12.87	11.70	14.1640
9	SO4	9.361	4.6346508	16.911	32.75	22.35	22.8594
10	NO3	10.254	2.3271452	8.762	16.44	11.58	3.1553
Total:			**14.152**	**75.661**	**100.00**	**100.00**	

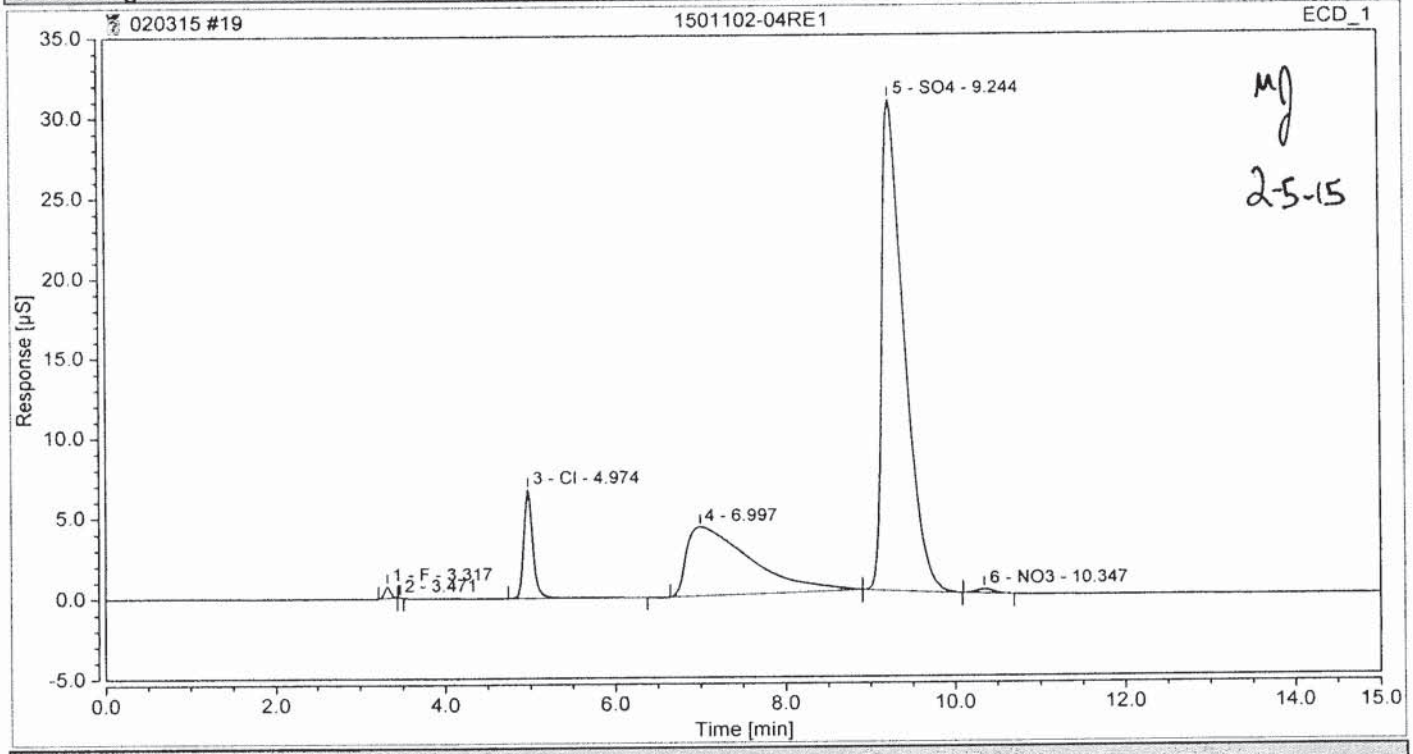
02/06/15

Chromatogram and Results

Injection Details

Injection Name:	**1501102-04RE1**	*Run Time (min):*	**15.00**
Vial Number:	**19**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/15 15:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.317	0.0614290	0.729	0.44	1.71	0.1257
2		3.471	0.0001293	0.003	0.00	0.01	n.a.
3	Cl	4.974	0.8277083	6.733	5.93	15.81	2.7484
n.a.	NO2	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4		6.997	3.7149368	4.281	26.60	10.05	n.a.
n.a.	Br	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5	SO4	9.244	9.3029981	30.602	66.62	71.85	45.8850
6	NO3	10.347	0.0573739	0.245	0.41	0.58	0.0778
Total:			**13.965**	**42.593**	**100.00**	**100.00**	

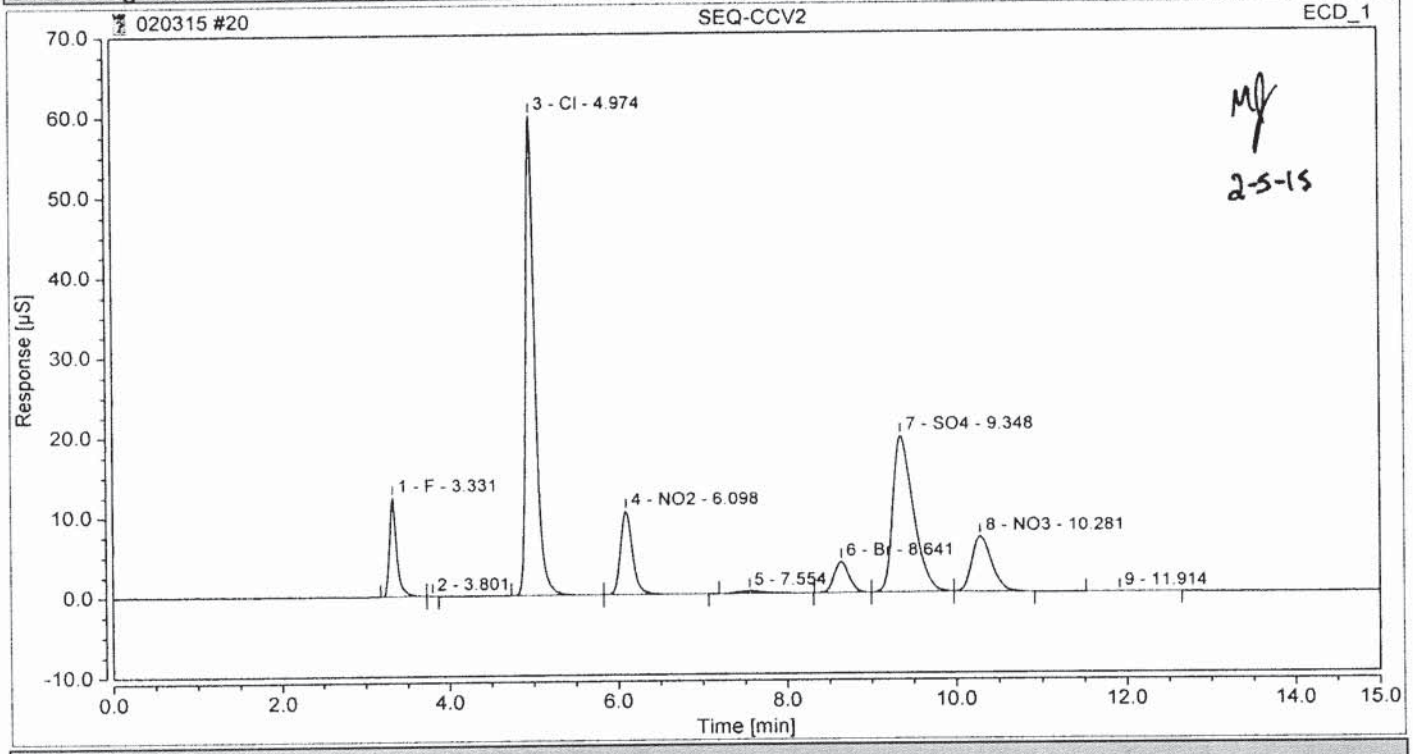
02/06/15

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CCV2**	*Run Time (min):*	**15.00**
Vial Number:	**20**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/15 16:00**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.331	1.2540505	12.366	6.67	10.90	2.5670
2		3.801	0.0003070	0.004	0.00	0.00	n.a.
3	Cl	4.974	7.5666518	59.930	40.22	52.83	25.1247
4	NO2	6.098	1.7289358	10.475	9.19	9.23	2.6117
5		7.554	0.1156409	0.317	0.61	0.28	n.a.
6	Br	8.641	0.7871269	3.881	4.18	3.42	6.1199
7	SO4	9.348	5.5303654	19.555	29.40	17.24	27.2773
8	NO3	10.281	1.8276037	6.912	9.71	6.09	2.4780
9		11.914	0.0029540	0.007	0.02	0.01	n.a.
Total:			**18.814**	**113.447**	**100.00**	**100.00**	

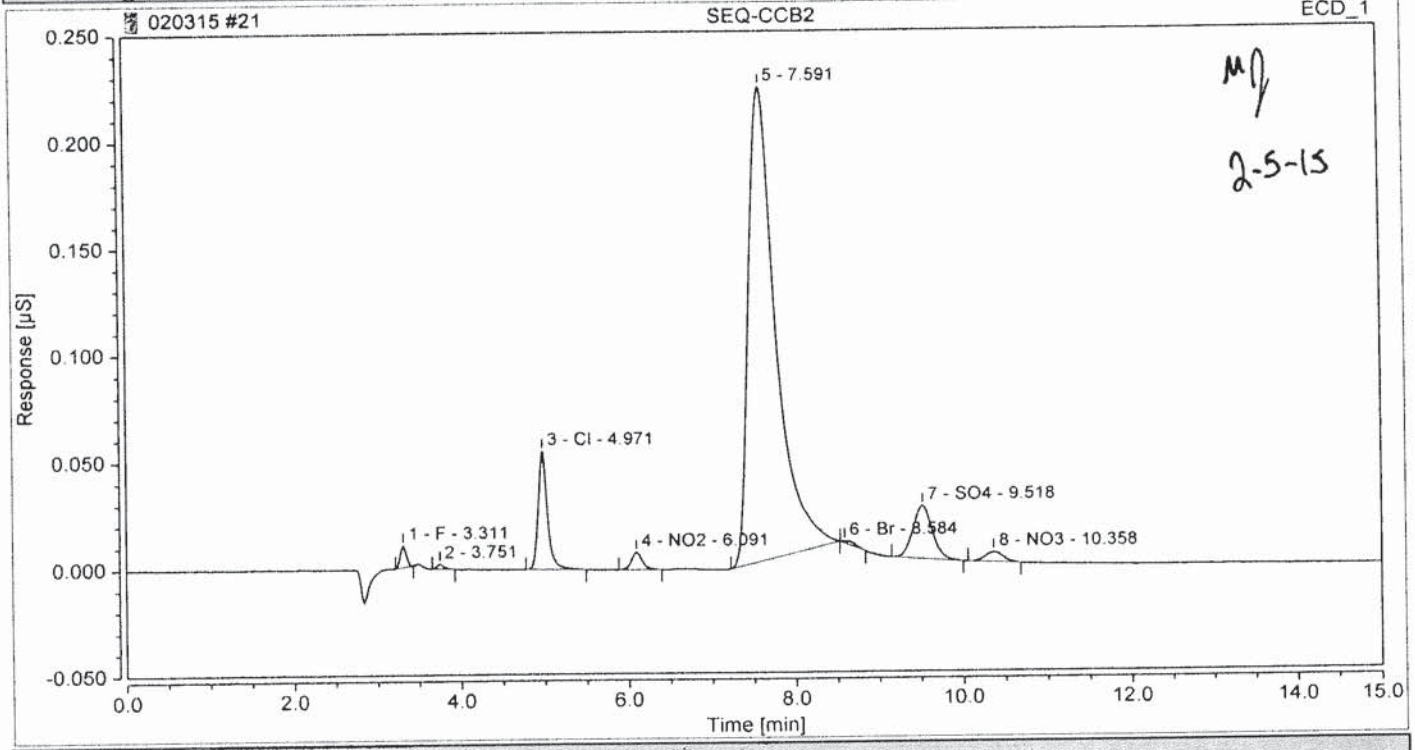
02/06/15

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CCB2**	*Run Time (min):*	**15.00**
Vial Number:	**21**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**03/Feb/15 16:17**	*Sample Weight:*	**1.0000**

Chromatogram



MJ 2-5-15

Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.311	0.0008326	0.010	0.82	3.13	0.0017
2		3.751	0.0002161	0.002	0.21	0.68	n.a.
3	Cl	4.971	0.0069667	0.055	6.89	16.82	0.0231
4	NO2	6.091	0.0012195	0.008	1.21	2.47	0.0018
5		7.591	0.0837673	0.222	82.87	67.71	n.a.
6	Br	8.584	0.0002797	0.001	0.28	0.26	0.0022
7	SO4	9.518	0.0066496	0.025	6.58	7.52	0.0328
8	NO3	10.358	0.0011561	0.005	1.14	1.42	0.0016
Total:			**0.101**	**0.328**	**100.00**	**100.00**	

02/06/15

PREPARATION BENCH SHEET

5A27016

Empirical Laboratories, LLC **Printed: 2/9/2015 2:04:37PM**

Instrument:

Matrix: Water **Prepared using: GCLC - WC_PREP_ANIONS_W** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID		ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
1501102-01	F	WC_ANIONS_9056A (Short Ho	01/27/2015	5	5						NA	;;
1501102-01	F	WC_ANIONS_9056A (Regular)	01/27/2015	5	5						NA	;;
1501102-02	F	WC_ANIONS_9056A (Regular)	01/27/2015	5	5						NA	;;
1501102-02	F	WC_ANIONS_9056A (Short Ho	01/27/2015	5	5						NA	;;
1501102-04	F	WC_ANIONS_9056A (Regular)	01/27/2015	5	5						NA	;;
1501102-04	F	WC_ANIONS_9056A (Short Ho	01/27/2015	5	5						NA	;;
1501102-05	F	WC_ANIONS_9056A (Regular)	01/27/2015	5	5						NA	;;
1501102-05	F	WC_ANIONS_9056A (Short Ho	01/27/2015	5	5						NA	;;
1501103-01	C	WC_ANIONS_300.0 (Short Hol	01/27/2015	5	5						NA	;see versions;see versions
1501103-02	A	WC_ANIONS_300.0 (Short Hol	01/27/2015	5	5						NA	Container -02C is Filtered for DOC_5310C;see versions;see versions
1501104-01	F	WC_ANIONS_9056A (Short Ho	01/27/2015	5	5						NA	;NO3 only;NO3 only
1501104-02	R	WC_ANIONS_9056A (Regular)	01/27/2015	5	5						NA	MS/MSD;BatchQC;Added for BatchQC in: 5A27016
1501104-02	R	WC_ANIONS_9056A (Short Ho	01/27/2015	5	5						NA	MS/MSD;NO3 only;NO3 only
1501104-02	R	WC_ANIONS_300.0 (Short Hol	01/27/2015	5	5						NA	MS/MSD;BatchQC;Added for BatchQC in: 5A27016
1501104-03	F	WC_ANIONS_9056A (Short Ho	01/27/2015	5	5						NA	;NO3 only;NO3 only
1501104-04	F	WC_ANIONS_9056A (Short Ho	01/27/2015	5	5						NA	;NO3 only;NO3 only
1501104-05	F	WC_ANIONS_9056A (Short Ho	01/27/2015	5	5						NA	;NO3 only;NO3 only

PREPARATION BENCH SHEET

5A27016

Empirical Laboratories, LLC **Printed: 2/9/2015 2:04:37PM**

Instrument:

Matrix: Water **Prepared using: GCLC - WC_PREP_ANIONS_W** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
5A27016-BLK1		QC	01/27/2015	5	5					NA	
5A27016-BS1		QC	01/27/2015	5	5	14L0385		5000		NA	
5A27016-DUP1		QC	01/27/2015	5	5		1501104-02			NA	
5A27016-MS1		QC	01/27/2015	22.5	25	14J0774	1501104-02	2500		NA	
5A27016-MSD1		QC	01/27/2015	22.5	25	14J0774	1501104-02	2500		NA	

Reagents Used:

Standard	Description

From 5A09005 on 1/12/2015 by MSJ

PREPARATION BENCH SHEET

5A27017

Empirical Laboratories, LLC **Printed: 2/9/2015 2:05:26PM**

Instrument:

Matrix: Water **Prepared using: WC - pNone** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
1501053-28	A	WC_TOC_9060A_QUAD	01/27/2015	40	40					NA	QSM5.0, Lot#N0115;Validate SOP within review! Check result against expected ranges!!!;Large Ampule, Betty"s Office
1501102-01	G	WC_TOC_9060A_QUAD	01/27/2015	40	40					NA	;;
1501102-02	G	WC_TOC_9060A_QUAD	01/27/2015	40	40					NA	;;
1501102-04	G	WC_TOC_9060A_QUAD	01/27/2015	40	40					NA	;;
1501102-05	G	WC_TOC_9060A_QUAD	01/27/2015	40	40					NA	;;
1501104-01	G	WC_TOC_9060A_QUAD	01/27/2015	40	40					NA	;;
1501104-02	S	WC_TOC_9060A_QUAD	01/27/2015	40	40					NA	MS/MSD;;
1501104-03	G	WC_TOC_9060A_QUAD	01/27/2015	40	40					NA	;;
1501104-04	G	WC_TOC_9060A_QUAD	01/27/2015	40	40					NA	;;
1501104-05	G	WC_TOC_9060A_QUAD	01/27/2015	40	40					NA	;;
5A27017-BLK1		QC	01/27/2015	40	40					NA	
5A27017-BS1		QC	01/27/2015	40	40	15A0426		40000		NA	
5A27017-MS1		QC	01/27/2015	40	40	14F0560	1501104-02	600		NA	
5A27017-MSD1		QC	01/27/2015	40	40	14F0560	1501104-02	600		NA	

Reagents Used:

Standard	Description
14L0603	TOC Phosphoric Acid Reagent
15A0462	TOC PERSULFATE REAGENT

PREPARATION BENCH SHEET

5A27017

Empirical Laboratories, LLC **Printed: 2/9/2015 2:05:26PM**

Instrument:

Matrix: Water **Prepared using: WC - pNone** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)

PREPARATION BENCH SHEET

5B03415

Empirical Laboratories, LLC **Printed: 2/9/2015 2:05:59PM**

Instrument:

Matrix: Water **Prepared using: GCLC - WC_PREP_ANIONS_W** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
1501076-01	I	WC_ANIONS_300.0 (Regular)	02/03/2015	5	5					NA	;Br, Cl, SO4;Br, Cl, SO4
1501076-03	I	WC_ANIONS_300.0 (Regular)	02/03/2015	5	5					NA	;Br, Cl, SO4;Br, Cl, SO4
1501076-05	Z	WC_ANIONS_9056A (Regular)	02/03/2015	5	5					NA	MS/MSD;BatchQC;Added for BatchQC in: 5B03415
1501076-05	Z	WC_ANIONS_300.0 (Short Hol	02/03/2015	5	5					NA	MS/MSD;BatchQC;Added for BatchQC in: 5B03415
1501076-05	Z	WC_ANIONS_300.0 (Regular)	02/03/2015	5	5					NA	MS/MSD;Br, Cl, SO4;Br, Cl, SO4
1501076-07	I	WC_ANIONS_300.0 (Regular)	02/03/2015	5	5					NA	;Br, Cl, SO4;Br, Cl, SO4
1501076-09	I	WC_ANIONS_300.0 (Regular)	02/03/2015	5	5					NA	;Br, Cl, SO4;Br, Cl, SO4
1501102-04RE1	F	WC_ANIONS_9056A (Regular)	02/03/2015	5	5					NA	;RE for Cl; Added 1/30/2015 By MSJ;RE for Cl; Added 1/30/2015 By MSJ
1502006-01	A	WC_ANIONS_300.0 (Short Hol	02/03/2015	5	5					NA	;see versions;see versions
1502006-02	A	WC_ANIONS_300.0 (Short Hol	02/03/2015	5	5					NA	;see versions;see versions
5B03415-BLK1		QC	02/03/2015	5	5					NA	
5B03415-BS1		QC	02/03/2015	5	5	15B0021		5000		NA	
5B03415-DUP1		QC	02/03/2015	5	5		1501076-05			NA	
5B03415-MS1		QC	02/03/2015	22.5	25	15B0016	1501076-05	2500		NA	
5B03415-MSD1		QC	02/03/2015	22.5	25	15B0016	1501076-05	2500		NA	

Reagents Used:

Standard	Description

PREPARATION BENCH SHEET

5B03415

Empirical Laboratories, LLC

Printed: 2/9/2015 2:05:59PM

Instrument:

Matrix: Water **Prepared using: GCLC - WC_PREP_ANIONS_W** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)

ANALYTICAL DATA PACKAGE
SDG # 1501116

PROJECT NAME: RADFORD ARMY AMMUNITION PLANT
PROJECT LOCATION: RADFORD VA
CONTRACT #: W912QR-04-D-0027 DA101

SUBMITTAL TO:
Eric Malarek
CB&I FEDERAL SERVICES, LLC
4696 Millennium Drive, Suite 320
Belcamp, MD 21017

SUBMITTAL BY:
Empirical Laboratories, LLC (EL)
621 Mainstream Drive, Suite 270
Nashville, TN 37228
Tel (615)345-1115
Fax (866)417-0548

LABORATORY CONTACT PERSON:
Project Manager: Sonya Gordon
Tel (615)345-1115
Fax (866)417-0548
Email: sgordon@empirlabs.com

Original Report Date: February 12, 2015
Report Revision #: N/A
Revision Date: N/A
Total # of Pages: 401

THIS DOCUMENT MEETS DoD QSM 4.2 STANDARDS

The results relate to only the samples associated with the referenced SDG and the submitted data has been produced in accordance with laboratory procedures. The Laboratory's Technical Lab Director, Mr. Rick Davis, is responsible for the final data produced and reported. His signature is listed at the end of the Case Narrative within the Analytical Data Package. If applicable to this report package, details on report revisions and the information on subcontracted analysis are listed in the package Case Narrative. This report shall not be reproduced, except in full, without the written approval of Empirical Laboratories, LLC.

L-A-B Accredited - Certificate Number L2226 - Testing

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Sample Delivery Group Case Narrative

Receipt Information:

The samples were received within the preservation guidelines for the associated methods. The information associated with sample receipt and the Sample Delivery Group (SDG) are included within section 4 of this package, which also provides information on the link between the client sample ID listed on the COC and laboratory's assigned unique sample ID or WorkOrder #. The sample is tracked through the laboratory for all analysis via the assigned WorkOrder #.

All samples that were received were analyzed and none of the samples were placed on hold without analyses. There were no subcontracted analyses for this SDG.

The following issues were discovered with the COC and/or samples upon log-in:

1. One VOC HCL vial for sample 48MW03-1/27/15 @1435 was received broken in shipment.

Changes to the Revision:

This is an original submittal of the final report package.

Analytical Information:

All samples were prepped (where applicable) and analyzed within the standard allowed holding times, unless noted within the exceptions listed below. The laboratory analyzed all samples within the program and method guidelines. Sample preparation and dilution information is provided within the final results report and at the beginning of each form set. The following information is provided specific to individual methods:

SW8260B:

Note – Sample 1501116-02 was analyzed at a 2x due to the sample foaming during screening. No lower analysis was performed.

The following matrix spikes exceeded criteria:
5B04008-MS1/MSD1 (1501116-05) exceeded relative percent difference criteria for Bromomethane; note – no positive results were detected in the parent sample for Bromomethane and the associated batch spike was within criteria

The following continuing calibration verifications exceeded criteria:
5B03708-CCV1 with a positive bias for Acetone and Dibromochloromethane; note – no positive results were detected in the associated samples for Dibromochloromethane and the concentrations for Acetone are less than the LOQ or non-detect

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

RSK175 MEE:
No anomalies or deviations are noted.

Wet Chemistry:
No anomalies or deviations are noted.

Data Qualifiers:

As applicable and where required, the following general qualifiers are associated with the sample results. Additional qualifiers will be specified within the reporting sections of the data package or within the body of the Case Narrative.

Analytical Report Terms and Qualifiers

DL: The detection limit (DL) is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The DL is supported by the method detection limit (MDL) which is determined from analysis of a sample containing the analyte in a given matrix.

LOD: The Limit of Detection is an estimate of the minimum amount of a substance that an analytical process can reliably detect. An LOD is analyte- and matrix-specific and may be laboratory-dependent. This definition is further clarified in the DoD QSM 4.2 revisions as the smallest amount or concentration of a substance that must be present in a sample in order to be detected at a high level of confidence (99%). At the LOD, the false negative rate (Type II error) is 1%.

LOQ: The Limit of Quantitation is the minimum level, concentration, or quantity of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. This term is further clarified within the DoD QSM 4.2 as the lowest concentration that produces a quantitative result within specified limits of precision and bias.

*****: Exceeding quality control criteria are associated with the reported result.

B: The presence of a "B" to the right of an analytical value indicates that this compound was also detected in the method blank and the data should be interpreted with caution. One should consider the possibility that the correct sample result might be less than the reported result and, perhaps, zero.

D: When a sample (or sample extract) is rerun diluted because one of the compound concentrations exceeded the highest concentration range for the standard curve, all of the values obtained in the dilution run will be flagged with a "D".

E: The concentration for any compound found which exceeds the highest concentration level on the standard curve for that compound will be flagged with an "E". Usually the sample will be rerun at a dilution to quantitate the flagged compound. For Metals, the qualifier indicates that the serial dilution was outside of the control limits and the compound should be considered estimated due to the presence of interference.

H1: The result was analyzed outside of the EPA recommended holding time.

H2: The result was extracted outside of the EPA recommended holding time.

H3: The sample for this analyte was received outside of the EPA recommended holding time.

J: The presence of a "J" to the right of an analytical result indicates that the reported result is estimated. The mass spectral data pass the identification criteria showing that the compound is present, but the calculated result is less than the LOQ. One should feel confident that the result is greater than zero and less than the LOQ.

M: Indicates that the sample matrix interfered with the quantitation of the analyte. In dual column analysis the result is reported from the column with the lower concentration. In inorganics, it indicates that the parameters DL/LOD/LOQ have been raised.

N: The MS/MSD accuracy and/or precision are outside criteria. The predigested spike recovery is not within control limits for the associated parameter.

P: The associated numerical value is an estimated quantity. There is greater than a 40% difference between the two GC columns for the detected concentrations. The higher of the two values is reported unless matrix interference is obvious or for HPLC analysis where the primary column is reported.

Q: The relative percent difference (RPD) and/or percent recovery exceeded limits in the associated Blank Spike and/or Blank Spike Duplicate.

S: The associated internal standard exceeded criteria.

U: The presence of a "U" indicates that the analyte was analyzed for but was not detected or the concentration of the analyte quantitated below the DL.

X: The parameter shows a potential positive bias on a reported concentration due to an ICV or CCV exceeding the upper control limit on the high side.

Y: The parameter shows a potential negative bias on a reported concentration due to an ICV or CCV exceeding the lower control limit on the low side.

Z: The parameter shows lack of confirmation/detection, which may be due to a negative bias in the ICV or CCV which exceeds the lower control limit.

Chromatographic Flags for Manual Integration:

The following letters are used to denote manual integrations on the laboratory's raw data in association with chromatographic integrations:

A: The peak was manually integrated as it was not integrated in the original chromatogram.

B: The peak was manually integrated due to resolution or coelution issues in the original chromatogram.

C: The peak was manually integrated to correct the baseline from the original chromatogram.

D: The peak was manually integrated to identify the correct peak as the wrong peak was identified in the original chromatogram.

E: The peak was manually integrated to include the entire peak as the original chromatogram only integrated part of the peak.

LIMS Definitions / Naming Conventions:

The following are general naming conventions that are used throughout the laboratory; however, on a method by method basis, there are additional QAQC items that are named in a consistent format.

BLK: LIMS assigns a unique identifier to the Method Blank by naming it as the letters BLK

appended to the Batch ID. A Method Blank is an analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The Method Blank is used to assess for possible contamination during preparation and/or analysis steps. Method Blanks within a Batch or Analytical sequence will be appended with a numerical value beginning with 1 that will increase incrementally.

BS: LIMS assigns a unique identifier to the Blank Spike by naming it as the letters BS appended to the Batch ID. The Blank Spike or Lab Control Sample is a controlled analyte-free matrix, which is spiked with known and verified concentrations of target analytes. Spiking concentrations can be referenced in the method SOP. The BS is used to evaluate the viability of analytes taken through the entire prep (when applicable) and analytical process. Blank Spikes within a Batch or Analytical sequence will be appended with a numerical value beginning with 1 that will increase incrementally. A duplicate Blank Spike will be designated as a BSD.

MS: The LIMS assigns each Client sample with a unique identifier. The Matrix Spike is designated with a MS at the end of the sample's unique identifier. The Matrix Spike sample is used to assess the effect of the sample matrix on the precision and accuracy of the results generated using the selected method. A duplicate Matrix Spike will be designated as a MSD.

IDs: The LIMS assigns each Client sample with a unique identifier. The letter "RE" may potentially be appended to the end of the LIMS Sample ID. And "**RE"** implies that the sample was either re-prepped, re-analyzed straight, or re-analyzed at a dilution. Subsequent re-analysis for the sample will be appended with a numerical value beginning with 1 that will increase incrementally. Eg: RE1, RE2, RE3, etc.

Statement of Data Authenticity:

I certify that, based upon my inquiry of those individuals immediately responsible for obtaining the information and to the best of my knowledge, the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, with the exception of the conditions detailed in this Case Narrative, as verified by my signature below. During absences, the Data Quality Manager, Technical Directors or Project Managers are authorized to sign this Statement of Data Authenticity.



Mr. Rick D. Davis
Laboratory Technical Director / VP Operations

Empirical Laboratories, LLC
Certifications/Approvals
(Revised 02/06/2015)

DoD ELAP QSM5.0, Certificate Number L2226
- Aqueous
- Non-aqueous
- Expires: 11/30/2015

State of Florida, Department of Health – NELAP, Lab ID: E87646
- Clean Water Act
- RCRA/CERCLA
- Expires: 06/30/2015

State of Georgia, Environmental Protection Agency – NELAP, Self Certification
- Expires: 06/30/2015

State of Illinois, Environmental Protection Agency – NELAP, Certificate Number: 003464
- Groundwater
- Solid and Hazardous Waste
- Expires: 09/13/2015

Commonwealth of Kentucky, Energy and Environment Cabinet – WWLCP, Laboratory Number: 98017
- Wastewater
- Expires: 12/31/2015

Commonwealth of Kentucky, Department of Environmental Protection – UST, Certificate Number: 77
- Aqueous
- Non-aqueous
- Expires: 06/30/2015

State of New Jersey, Department of Environmental Protection – NELAP Primary, Lab ID: TN473
- Water Pollution
- Solid and Hazardous Waste
- Expires: 06/30/2015

State of North Carolina, Department of Environment and Natural Resources - Certificate Number: 643
- Aqueous
- Non-aqueous
- Expires: 12/31/2015

State of North Dakota, Department of Health – NELAP, Certificate No.: R-204
- Aqueous
- Non-aqueous
- Expires: 06/30/2015

Commonwealth of Pennsylvania, Department of Environmental Protection – NELAP, Lab ID: 68-05374
- Aqueous
- Non-aqueous
- Expires: 10/31/2015

State of Texas, Commission on Environmental Quality – NELAP, Certificate Number: T104704307-15-11
- Aqueous
- Non-aqueous
- Expires: 12/31/2015

State of Utah, Department of Health – NELAP, Certificate Number: TN0042014-6
- Aqueous
- Non-aqueous
- Expires: 07/31/2015

Commonwealth of Virginia, Department of General Services – NELAP, Certificate Number: 7596, Lab ID: 460243
- Aqueous
- Non-aqueous
- Expires: 12/14/2015

State of Washington, Department of Ecology – NELAP, Lab ID: C934-14
- Groundwater
- Solid and Hazardous Waste
- Expires: 03/18/2015

ORGANIC CALCULATIONS

GC/MS Volatiles

$$\text{Final Concentration} = \frac{\text{On-column(ug/L or ug/Kg) * Expected Vol/Weight (mL or g) * Dilution}}{\text{Initial Vol/Weight (mL or g) * (Percent Solids/100) (if applicable)}}$$

Note - Expected Vol/Weight value is found in "Final Vol" column of Preparation Batch Summary.

GC/MS Extractables

$$\text{Final Concentration} = \frac{\text{On-column(ng/uL) * Final Vol (ml) * Dilution *(1000uL/mL)}}{\text{Initial Vol/Weight (mL or g) * (Percent Solids/100) (if applicable)}}$$

= ng/mL or ng/g

= ug/L or ug/kg

GC or LC Extractables

$$\text{Final Concentration} = \frac{\text{On-column(ng/mL) * Final Vol (mL) * Dilution}}{\text{Initial Vol/Weight (mL or g) * (Percent Solids/100) (if applicable)}}$$

= ng/mL or ng/g

= ug/L or ug/kg

Sample Receipt Information

1501116

EMPIRICAL LABORATORIES, LLC - CHAIN OF CUSTODY RECORD

25440

11

SHIP TO: 621 Mainstream Drive, Suite 270 ♦ Nashville, TN 37228 ♦ 877-345-1113 ♦ (fax) 866-417-0548

Send Results to:

Name Eric Malanos
Company CBI Fed Serv.
Address 4696 Millenium Dr
City Belcamp
State, Zip MD 21017
Phone
Fax
E-mail

Send Invoice to:

Name
Company
Address
City
State, Zip
Phone
Fax
E-mail

Analysis Requirements:

(HCl) (HCl) (H2SO4)
VOC RSK Anions TOC

Lab Use Only:

VOA Headspace	Y	N	NA
Field Filtered	Y	N	NA
Correct Containers	Y	N	NA
Discrepancies	Y	N	NA
Cust Seals Intact	Y	N	NA
Containers Intact	Y	N	NA

Airbill #
CAR #

Project No./Name.

Sampler's (Signature)

Lab Use Only Lab #	Date/Time Sampled	Sample Description	Sample Matrix	VOC (HCl)	VOC (HCl)	RSK (H2SO4)	Anions	TOC	Comments	No of Bottles	Lab Use Only Containers/Pres
01	1/27 8:00	Trip Blank 14-0842	GW	2						2	
02	1/27 1035	49MW02	GW	3	2	1	1			7	
03	1/27 1255	50MW02	GW	3	2	1	1			7	
04	1/27 1255	49TM01	GW	3	2	1	1			7	
05	1/27 1435	48MW3	GW	9	6	3	3		MS/MSD	21	
06	1/27 1515	RB012714	GW	3	2	1	1				
07	1/27 1435	49TM02	GW	3	2	1	1				

Relinquished by (Signature)	Date/Time	Received By (Signature)
	1/27 4:00	
Relinquished by (Signature)	Date/Time	Received By (Signature)
Received for Laboratory by (Signature)	Date/Time	Temperature
	1/28/15 840	0.4

REMARKS:

Details

Page 1 of 1
Cooler No 1 of 1
Date Shipped 1/27
Shipped By JH
Turnaround Standard

Distribution Original and yellow copies accompany sample shipment to laboratory, Pink retained by samplers

1501116

II EMPIRICAL LABORATORIES
COOLER RECEIPT FORM

Cooler Received/Opened On ~~01/26/15~~ @ ~~1330~~ 1/28/15@840 Workorder# 1501116

1 Tracking #_____5053_____ (last 4 digits, FedEx)

Courier: Walk-In

2. Temperature of rep. sample or temp blank when opened. 0.4 °C + correction factor(-0.0) = 0.4 °C

3 If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES (NO) NA

4. Were custody seals on outside of cooler? (YES) NO.. NA

If yes, how many and where. 2 front

5. Were the seals intact, signed, and dated correctly? (YES) NO.. NA

6 Were custody papers inside cooler? (YES) NO .NA

I certify that I opened the cooler and answered questions 1-6 (initial/date) TH 1/28/15

7. Were custody seals on containers. YES (NO) and Intact YES NO. (NA)

Were these signed and dated correctly? YES .NO (NA)

8. Packing material used? Bubblewrap (Plastic bag) Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: (Ice) Ice-pack Ice (direct contact) Dry Ice Other None

10 Did all containers arrive in good condition (unbroken)? (YES) .NO . NA

11. Were all container labels complete (#, date, signed, pres., etc)? (YES) NO . NA

12. Did all container labels and tags agree with custody papers? (YES) NO . NA

13 a. Were VOA vials received? (YES) NO NA

b Was there observable headspace present in any VOA vial (>5mm-6mm)? YES (NO) NA

14 Was there a Trip Blank in this cooler (custody seals present/intact)? (YES) NO NA. Comments_____
If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (initial/date) TH 1/28/15

15. a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? (YES) .NO. NA

b. Did the bottle labels indicate that the correct preservatives were used? (YES) NO NA

16. Was residual chlorine present? YES NO (NA)

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial/date) TH 1/28/15

17 Were custody papers properly filled out (ink, signed, etc)? (YES) NO NA

18 Did you sign the custody papers in the appropriate place? (YES) NO NA

19 Were correct containers used for the analysis requested? (YES) NO NA If not, PM notified? YES. NO (NA)

20 Was sufficient amount of sample sent in each container? (YES) NO. NA If not, PM notified? YES. .NO.. (NA)

21. Were there Non-Conformance issues at login? YES. (NO) NCR#_____

I certify that I entered this project into LIMS and answered questions 17-21 (initial/date) TH 1/28/15

I certify that I attached a label with the unique LIMS number to each container (initial/date) TH 1/28/15

I certify that I notified the laboratory of any short holding time or RUSH parameters (initial/date) TH 1/28/15

C:\Users\jgross\Desktop\Cooler Receipt Updated 2014.doc

II. EMPIRICAL LABORATORIES
COOLER RECEIPT FORM (Continued)

LIMS Data Entry Second Check Workorder# 1501116

☆22. Cooler Receipt Form Issues reviewed and communicated to PM? YES NO NA

23. Client and Project verified to match the COC/CRF in LIMS Project Screen? YES NO NA

24. Following Items verified to items verified to match the COC/CRF in LIMS Receipt Screen.

a. Received Date/Received By YES NO NA

b. TAT (COC specified different?) YES NO NA

c. Shipping Container Temperatures (corrected temps) YES NO NA

d. Condition Items (seals, intact, labels, preservation, ROI) YES NO NA

25. Following LIMS Sample Information verified against COC for each sample:

a. Name YES NO NA

b. QC Source YES NO NA

c. Matrix YES NO NA

d. Sample Type YES NO NA

e. Sampled Date/Time (Correct Time Zone) YES NO NA

f. Work Analyses/Versions (if applicable) YES NO NA

g. Sample Issues Included in comments (limited volume, concentration warnings, etc.)? YES NO NA

h. Unpreserved VOA holding time set to 7 days? YES NO NA

26. Containers consistent with tests requested? YES NO NA

27. Field data entered and matching COC? YES NO NA

I certify that I have verified the LIMS data entry and answered questions 23-27 above (initial/date). JTG 1/28/15

Additional Details:

☆ 1 HCL VOC vial broken in shipment
48MW03 - 1/27/15@ - 1435 1 - out of 15 vials
Received broken.

III. EMPIRICAL LABORATORIES, LLC
DATA ENTRY VERIFICATION FORM – PROJECT MANAGEMENT

Workorder#: 1501116

	Verification Item	Yes	No	NA
1.	**Cooler Receipt Form Issues reviewed and communicated to client**	X		
2.	**Element/ Project Screen/items verified to match the COC/CRF:**			
a.	**Client/Project**	X		
b.	Comments requiring laboratory reminder?			X
c.	Client and/or Project Memo requiring laboratory reminder?			X
3.	**Receipt Screen items verified to match the COC/CRF:**			
a.	Received Date/Received By	X		
b.	Workorder Due Date	X		
c.	Package Due Date	X		
d.	TAT	X		
e.	SDG Identifier Populated	X		
4.	**Sample Information verified against COC for each sample:**			
a.	Name	X		
b.	QC Source	X		
c.	Matrix	X		
d.	Sample Type	X		
e.	Sampled Date/Time (Correct Time Zone)	X		
f.	Work Analyses/Versions	X		
g.	Sample Issues included in comments	X		
h.	Unpreserved VOA holding time set to 7 days			X
5.	**Containers consistent with tests requested**	X		
6.	**Field data entered and matching COC, if applicable**			X
	I certify that I have performed a second check of the LIMS information against the COC to confirm accuracy (initial/date):	1/30/2015		

1501116

Empirical Laboratories, LLC

Client: CB&I
Project: Radford AAP

Project Manager: Renee Vogel
Project Number: Radford AAP

Report To:
CB&I
Accounts Payable
PO Box 98519
Baton Rouge, LA 70884
Phone: (225) 932-2500
Fax: (225) 932-2661

Invoice To:
CB&I
Accounts Payable
PO Box 98519
Baton Rouge, LA 70884
Phone :(225) 932-2500
Fax: (225) 932-2661

Due to Client: 02/18/2015 16:00 *This is the projected due date to the client, at the time of receipt, and is for report delivery via upload, and/or email, and/or shipment to meet TAT as setup by project*

Received By: Tiana L. Hutchings
Date Received: 01/28/2015 08:40

Logged In By: Tiana L. Hutchings
Date Logged In: 01/28/2015 09:37

Samples Received at: **0.4°C**

Custody Seals	No	Received On Ice	Yes
Containers Intact	Yes		
COC/Labels Agree	Yes		
Preservation Confirme	Yes		

Method	Test Code	Due	TAT	Expires	Comments
1501116-01 Trip Blank 14-0842 [Water] Sampled 01/27/2015 08:00 Eastern 'Trip Blank'					
SW8260B	VOC_8260B_REG	02/13/2015 14:00	15	02/10/2015 07:00	
1501116-02 49MW02 [Water] Sampled 01/27/2015 10:55 Eastern 'Client Sample'					
RSK175	VGC_RSK175_MEE	02/13/2015 14:00	15	02/10/2015 09:55	
SW8260B	VOC_8260B_REG	02/13/2015 14:00	15	02/10/2015 09:55	
SW9056A	WC_ANIONS_9056A (Regular)	02/13/2015 14:00	15	02/24/2015 09:55	
SW9056A	WC_ANIONS_9056A (Short Hold)	02/13/2015 14:00	15	01/29/2015 09:55	
SW9060A	WC_TOC_9060A_QUAD	02/13/2015 14:00	15	02/24/2015 09:55	
1501116-03 50MW02 [Water] Sampled 01/27/2015 12:55 Eastern 'Client Sample'					
RSK175	VGC_RSK175_MEE	02/13/2015 14:00	15	02/10/2015 11:55	
SW8260B	VOC_8260B_REG	02/13/2015 14:00	15	02/10/2015 11:55	
SW9056A	WC_ANIONS_9056A (Regular)	02/13/2015 14:00	15	02/24/2015 11:55	
SW9056A	WC_ANIONS_9056A (Short Hold)	02/13/2015 14:00	15	01/29/2015 11:55	
SW9060A	WC_TOC_9060A_QUAD	02/13/2015 14:00	15	02/24/2015 11:55	

1501116

Empirical Laboratories, LLC

Client:	**CB&I**	**Project Manager:**	**Renee Vogel**
Project:	**Radford AAP**	**Project Number:**	**Radford AAP**

Method	Test Code	Due	TAT	Expires	Comments
1501116-04 49TM01 [Water] Sampled 01/27/2015 12:55 Eastern 'Client Sample'					
SW9060A	WC_TOC_9060A_QUAD	02/13/2015 14:00	15	02/24/2015 11:55	
RSK175	VGC_RSK175_MEE	02/13/2015 14:00	15	02/10/2015 11:55	
SW8260B	VOC_8260B_REG	02/13/2015 14:00	15	02/10/2015 11:55	
SW9056A	WC_ANIONS_9056A (Regular)	02/13/2015 14:00	15	02/24/2015 11:55	
SW9056A	WC_ANIONS_9056A (Short Hold)	02/13/2015 14:00	15	01/29/2015 11:55	
1501116-05 48MW3 [Water] Sampled 01/27/2015 14:35 Eastern 'Client Sample'					**MS/MSD**
SW8260B	VOC_8260B_REG	02/13/2015 14:00	15	02/10/2015 13:35	MS/MSD
SW9056A	WC_ANIONS_9056A (Regular)	02/13/2015 14:00	15	02/24/2015 13:35	MS/MSD
SW9056A	WC_ANIONS_9056A (Short Hold)	02/13/2015 14:00	15	01/29/2015 13:35	MS/MSD
SW9060A	WC_TOC_9060A_QUAD	02/13/2015 14:00	15	02/24/2015 13:35	MS/MSD
RSK175	VGC_RSK175_MEE	02/13/2015 14:00	15	02/10/2015 13:35	MS/MSD
1501116-06 RB012714 [Water] Sampled 01/27/2015 15:15 Eastern 'Equipment Blank'					
SW8260B	VOC_8260B_REG	02/13/2015 14:00	15	02/10/2015 14:15	
SW9060A	WC_TOC_9060A_QUAD	02/13/2015 14:00	15	02/24/2015 14:15	
SW9056A	WC_ANIONS_9056A (Regular)	02/13/2015 14:00	15	02/24/2015 14:15	
RSK175	VGC_RSK175_MEE	02/13/2015 14:00	15	02/10/2015 14:15	
SW9056A	WC_ANIONS_9056A (Short Hold)	02/13/2015 14:00	15	01/29/2015 14:15	
1501116-07 49TM02 [Water] Sampled 01/27/2015 14:35 Eastern 'Client Sample'					
SW9060A	WC_TOC_9060A_QUAD	02/13/2015 14:00	15	02/24/2015 13:35	
RSK175	VGC_RSK175_MEE	02/13/2015 14:00	15	02/10/2015 13:35	
SW8260B	VOC_8260B_REG	02/13/2015 14:00	15	02/10/2015 13:35	
SW9056A	WC_ANIONS_9056A (Regular)	02/13/2015 14:00	15	02/24/2015 13:35	
SW9056A	WC_ANIONS_9056A (Short Hold)	02/13/2015 14:00	15	01/29/2015 13:35	

Reviewed By

Date

Sample Delivery Group Assignment Form

CLIENT: CB&I
PROJECT NAME: Radford AAP
SDG #: 1501116

QC LEVEL: Level IV
Report Due: 2/18/2015
Client Sample Count: 5

Sample Type	Sampled	Received	Lab ID	Client ID	Report Matrix	RSK175	SW8260B	SW9056A	SW9060A
Trip Blank	1/27/2015	1/28/2015	1501116-01	Trip Blank 14-0842	Water		X		
Client Sample	1/27/2015	1/28/2015	1501116-02	49MW02	Water	X	X	X	X
Client Sample	1/27/2015	1/28/2015	1501116-03	50MW02	Water	X	X	X	X
Client Sample	1/27/2015	1/28/2015	1501116-04	49TM01	Water	X	X	X	X
Client Sample	1/27/2015	1/28/2015	1501116-05	48MW3	Water	MS/MSD	MS/MSD	MS/MSD	MS/MSD
Equipment Blank	1/27/2015	1/28/2015	1501116-06	RB012714	Water	X	X	X	X
Client Sample	1/27/2015	1/28/2015	1501116-07	49TM02	Water	X	X	X	X

Data for SW8260B
Forms

Sample Extraction Data

Prep Method: 5030B-SW8260B

Lab Number [Field ID]	Batch	Nominal Initial/Final	Initial [mL]	Final [mL]	Dilution	% Solids	Notes	Date
1501116-01 [Trip Blank 14-0842]	5B04008	5.00/5.00	5.00	5.00	1.00			02/04/15
1501116-02 [49MW02]	5B04008	5.00/5.00	5.00	5.00	2.00			02/04/15
1501116-03 [50MW02]	5B04008	5.00/5.00	5.00	5.00	1.00			02/04/15
1501116-04 [49TM01]	5B04008	5.00/5.00	5.00	5.00	1.00			02/04/15
1501116-05 [48MW3]	5B04008	5.00/5.00	5.00	5.00	1.00			02/04/15
1501116-06 [RB012714]	5B04008	5.00/5.00	5.00	5.00	1.00			02/04/15
1501116-07 [49TM02]	5B04008	5.00/5.00	5.00	5.00	1.00			02/04/15

ANALYSIS DATA SHEET

Trip Blank 14-0842

Laboratory: Empirical Laboratories, LLC SDG: 1501116

Client: CB&I Project: Radford AAP

Matrix: Water Laboratory ID: 1501116-01 File ID: 0111601A.D

Sampled: 01/27/15 08:00 Prepared: 02/04/15 10:42 Analyzed: 02/04/15 10:42

Solids: Preparation: 5030B Dilution: 1

Batch: 5B04008 Sequence: 5B03708 Calibration: 5035003 Instrument: MS-VOA6

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	UX
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	UX
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U
95-47-6	o-Xylene		0.250	0.500	1.00	U

Total Target Analytes Reported 35 Project Analytes: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	29.69	99.0	75 - 120	
Dibromofluoromethane	30.00	29.37	97.9	85 - 115	
1,2-Dichloroethane-d4	30.00	29.61	98.7	70 - 120	

ANALYSIS DATA SHEET

Trip Blank 14-0842

Laboratory:	Empirical Laboratories, LLC			SDG:	1501116
Client:	CB&I			Project:	Radford AAP
Matrix:	Water	Laboratory ID:	1501116-01	File ID:	0111601A.D
Sampled:	01/27/15 08:00	Prepared:	02/04/15 10:42	Analyzed:	02/04/15 10:42
Solids:		Preparation:	5030B	Dilution:	1
Batch:	5B04008	Sequence:	5B03708	Calibration:	5035003
Instrument:	MS-VOA6				

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	29.83	99.4	85 - 120	

ANALYSIS DATA SHEET

49MW02

Laboratory: Empirical Laboratories, LLC SDG: 1501116

Client: CB&I Project: Radford AAP

Matrix: Water Laboratory ID: 1501116-02 File ID: 0111602B.D

Sampled: 01/27/15 10:55 Prepared: 02/04/15 13:27 Analyzed: 02/04/15 13:27

Solids: Preparation: 5030B Dilution: 2

Batch: 5B04008 Sequence: 5B03708 Calibration: 5035003 Instrument: MS-VOA6

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone	**14.0**	5.00	10.0	20.0	XJD
71-43-2	Benzene		0.500	1.00	2.00	U
75-27-4	Bromodichloromethane		0.500	1.00	2.00	U
75-25-2	Bromoform		0.500	1.00	2.00	U
74-83-9	Bromomethane		1.00	2.00	4.00	U
78-93-3	2-Butanone		5.00	10.0	20.0	U
75-15-0	Carbon disulfide		0.500	1.00	2.00	U
56-23-5	Carbon tetrachloride	**5.05**	0.500	1.00	2.00	D
108-90-7	Chlorobenzene		0.500	1.00	2.00	U
75-00-3	Chloroethane		1.00	2.00	4.00	U
67-66-3	Chloroform	**1.55**	0.500	1.00	2.00	JD
74-87-3	Chloromethane		0.500	1.00	2.00	U
124-48-1	Dibromochloromethane		0.500	1.00	2.00	UX
75-34-3	1,1-Dichloroethane		0.500	1.00	2.00	U
107-06-2	1,2-Dichloroethane		0.500	1.00	2.00	U
75-35-4	1,1-Dichloroethene		0.500	1.00	2.00	U
156-59-2	cis-1,2-Dichloroethene		0.500	1.00	2.00	U
156-60-5	trans-1,2-Dichloroethene		0.500	1.00	2.00	U
78-87-5	1,2-Dichloropropane		0.500	1.00	2.00	U
10061-01-5	cis-1,3-Dichloropropene		0.500	1.00	2.00	U
10061-02-6	trans-1,3-Dichloropropene		0.500	1.00	2.00	U
100-41-4	Ethylbenzene	**1.13**	0.500	1.00	2.00	JD
591-78-6	2-Hexanone		2.50	5.00	10.0	U
75-09-2	Methylene chloride		1.00	2.00	4.00	U
108-10-1	4-Methyl-2-pentanone		2.50	5.00	10.0	U
100-42-5	Styrene		0.500	1.00	2.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.500	1.00	2.00	U
127-18-4	Tetrachloroethene		0.500	1.00	2.00	U
108-88-3	Toluene		0.500	1.00	2.00	U
79-00-5	1,1,2-Trichloroethane		0.500	1.00	2.00	U
71-55-6	1,1,1-Trichloroethane		0.500	1.00	2.00	U
79-01-6	Trichloroethene	**0.501**	0.500	1.00	2.00	JD
75-01-4	Vinyl chloride		0.500	1.00	2.00	U
108-38-3/106-42-	m,p-Xylene	**4.06**	1.00	2.00	4.00	D
95-47-6	o-Xylene	**2.91**	0.500	1.00	2.00	D

Total Target Analytes Reported 35 Project Analytes: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	29.73	99.1	75 - 120	
Dibromofluoromethane	30.00	30.56	102	85 - 115	
1,2-Dichloroethane-d4	30.00	29.14	97.1	70 - 120	

ANALYSIS DATA SHEET

49MW02

Laboratory:	Empirical Laboratories, LLC			SDG:	1501116
Client:	CB&I			Project:	Radford AAP
Matrix:	Water	Laboratory ID:	1501116-02	File ID:	0111602B.D
Sampled:	01/27/15 10:55	Prepared:	02/04/15 13:27	Analyzed:	02/04/15 13:27
Solids:		Preparation:	5030B	Dilution:	1
Batch:	5B04008	Sequence:	5B03708	Calibration:	5035003
Instrument:	MS-VOA6				

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	30.05	100	85 - 120	

ANALYSIS DATA SHEET

50MW02

Laboratory: Empirical Laboratories, LLC SDG: 1501116

Client: CB&I Project: Radford AAP

Matrix: Water Laboratory ID: 1501116-03 File ID: 0111603B.D

Sampled: 01/27/15 12:55 Prepared: 02/04/15 13:54 Analyzed: 02/04/15 13:54

Solids: Preparation: 5030B Dilution: 1

Batch: 5B04008 Sequence: 5B03708 Calibration: 5035003 Instrument: MS-VOA6

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	UX
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride	**1.62**	0.250	0.500	1.00	
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	UX
75-34-3	1,1-Dichloroethane	**0.313**	0.250	0.500	1.00	J
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene	**0.384**	0.250	0.500	1.00	J
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene	**0.311**	0.250	0.500	1.00	J
108-88-3	Toluene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene	**2.08**	0.250	0.500	1.00	
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene	**0.804**	0.500	1.00	2.00	J
95-47-6	o-Xylene	**0.542**	0.250	0.500	1.00	J

Total Target Analytes Reported 35 Project Analytes: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	30.37	101	75 - 120	
Dibromofluoromethane	30.00	31.36	105	85 - 115	
1,2-Dichloroethane-d4	30.00	29.84	99.5	70 - 120	

ANALYSIS DATA SHEET

50MW02

Laboratory:	Empirical Laboratories, LLC			SDG:	1501116
Client:	CB&I			Project:	Radford AAP
Matrix:	Water	Laboratory ID:	1501116-03	File ID:	0111603B.D
Sampled:	01/27/15 12:55	Prepared:	02/04/15 13:54	Analyzed:	02/04/15 13:54
Solids:		Preparation:	5030B	Dilution:	1
Batch:	5B04008	Sequence:	5B03708	Calibration:	5035003
Instrument:	MS-VOA6				

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	30.63	102	85 - 120	

ANALYSIS DATA SHEET

49TM01

Laboratory: Empirical Laboratories, LLC SDG: 1501116

Client: CB&I Project: Radford AAP

Matrix: Water Laboratory ID: 1501116-04 File ID: 0111604B.D

Sampled: 01/27/15 12:55 Prepared: 02/04/15 14:22 Analyzed: 02/04/15 14:22

Solids: Preparation: 5030B Dilution: 1

Batch: 5B04008 Sequence: 5B03708 Calibration: 5035003 Instrument: MS-VOA6

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	UX
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride	**1.50**	0.250	0.500	1.00	
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	UX
75-34-3	1,1-Dichloroethane	**0.305**	0.250	0.500	1.00	J
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene	**0.398**	0.250	0.500	1.00	J
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene	**0.299**	0.250	0.500	1.00	J
108-88-3	Toluene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane	**0.251**	0.250	0.500	1.00	J
79-01-6	Trichloroethene	**2.02**	0.250	0.500	1.00	
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene	**0.715**	0.500	1.00	2.00	J
95-47-6	o-Xylene	**0.514**	0.250	0.500	1.00	J

Total Target Analytes Reported 35 Project Analytes: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	29.85	99.5	75 - 120	
Dibromofluoromethane	30.00	30.49	102	85 - 115	
1,2-Dichloroethane-d4	30.00	29.21	97.4	70 - 120	

ANALYSIS DATA SHEET

49TM01

Laboratory:	Empirical Laboratories, LLC			SDG:	1501116
Client:	CB&I			Project:	Radford AAP
Matrix:	Water	Laboratory ID:	1501116-04	File ID:	0111604B.D
Sampled:	01/27/15 12:55	Prepared:	02/04/15 14:22	Analyzed:	02/04/15 14:22
Solids:		Preparation:	5030B	Dilution:	1
Batch:	5B04008	Sequence:	5B03708	Calibration:	5035003
Instrument:	MS-VOA6				

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	29.92	99.7	85 - 120	

ANALYSIS DATA SHEET

48MW3

Laboratory: Empirical Laboratories, LLC SDG: 1501116

Client: CB&I Project: Radford AAP

Matrix: Water Laboratory ID: 1501116-05 File ID: 0111605B.D

Sampled: 01/27/15 14:35 Prepared: 02/04/15 12:32 Analyzed: 02/04/15 12:32

Solids: Preparation: 5030B Dilution: 1

Batch: 5B04008 Sequence: 5B03708 Calibration: 5035003 Instrument: MS-VOA6

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	UX
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	NU
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride	**77.4**	0.250	0.500	1.00	
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform	**8.37**	0.250	0.500	1.00	
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	UX
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene	**12.4**	0.250	0.500	1.00	
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene	**0.736**	0.500	1.00	2.00	J
95-47-6	o-Xylene	**0.495**	0.250	0.500	1.00	J

Total Target Analytes Reported 35 Project Analytes: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	30.31	101	75 - 120	
Dibromofluoromethane	30.00	30.81	103	85 - 115	
1,2-Dichloroethane-d4	30.00	29.34	97.8	70 - 120	

ANALYSIS DATA SHEET

48MW3

Laboratory:	Empirical Laboratories, LLC			SDG:	1501116
Client:	CB&I			Project:	Radford AAP
Matrix:	Water	Laboratory ID:	1501116-05	File ID:	0111605B.D
Sampled:	01/27/15 14:35	Prepared:	02/04/15 12:32	Analyzed:	02/04/15 12:32
Solids:		Preparation:	5030B	Dilution:	1
Batch:	5B04008	Sequence:	5B03708	Calibration:	5035003
Instrument:	MS-VOA6				

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	29.37	97.9	85 - 120	

ANALYSIS DATA SHEET

RB012714

Laboratory: Empirical Laboratories, LLC SDG: 1501116

Client: CB&I Project: Radford AAP

Matrix: Water Laboratory ID: 1501116-06 File ID: 0111606A.D

Sampled: 01/27/15 15:15 Prepared: 02/04/15 11:37 Analyzed: 02/04/15 11:37

Solids: Preparation: 5030B Dilution: 1

Batch: 5B04008 Sequence: 5B03708 Calibration: 5035003 Instrument: MS-VOA6

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone	**9.32**	2.50	5.00	10.0	XJ
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	UX
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U
95-47-6	o-Xylene		0.250	0.500	1.00	U

Total Target Analytes Reported 35 Project Analytes: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	29.95	99.8	75 - 120	
Dibromofluoromethane	30.00	30.48	102	85 - 115	
1,2-Dichloroethane-d4	30.00	29.46	98.2	70 - 120	

ANALYSIS DATA SHEET

RB012714

Laboratory:	Empirical Laboratories, LLC			SDG:	1501116
Client:	CB&I			Project:	Radford AAP
Matrix:	Water	Laboratory ID:	1501116-06	File ID:	0111606A.D
Sampled:	01/27/15 15:15	Prepared:	02/04/15 11:37	Analyzed:	02/04/15 11:37
Solids:		Preparation:	5030B	Dilution:	1
Batch:	5B04008	Sequence:	5B03708	Calibration:	5035003
Instrument:	MS-VOA6				

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	29.01	96.7	85 - 120	

ANALYSIS DATA SHEET

49TM02

Laboratory: Empirical Laboratories, LLC SDG: 1501116

Client: CB&I Project: Radford AAP

Matrix: Water Laboratory ID: 1501116-07 File ID: 0111607B.D

Sampled: 01/27/15 14:35 Prepared: 02/04/15 14:49 Analyzed: 02/04/15 14:49

Solids: Preparation: 5030B Dilution: 1

Batch: 5B04008 Sequence: 5B03708 Calibration: 5035003 Instrument: MS-VOA6

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	UX
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride	**77.2**	0.250	0.500	1.00	
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform	**8.51**	0.250	0.500	1.00	
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	UX
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene	**0.252**	0.250	0.500	1.00	J
591-78-6	2-Hexanone		1.25	2.50	5.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene	**12.7**	0.250	0.500	1.00	
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene	**0.705**	0.500	1.00	2.00	J
95-47-6	o-Xylene	**0.547**	0.250	0.500	1.00	J

Total Target Analytes Reported 35 Project Analytes: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	29.82	99.4	75 - 120	
Dibromofluoromethane	30.00	31.34	104	85 - 115	
1,2-Dichloroethane-d4	30.00	29.48	98.3	70 - 120	

ANALYSIS DATA SHEET

49TM02

Laboratory:	Empirical Laboratories, LLC			SDG:	1501116
Client:	CB&I			Project:	Radford AAP
Matrix:	Water	Laboratory ID:	1501116-07	File ID:	0111607B.D
Sampled:	01/27/15 14:35	Prepared:	02/04/15 14:49	Analyzed:	02/04/15 14:49
Solids:		Preparation:	5030B	Dilution:	1
Batch:	5B04008	Sequence:	5B03708	Calibration:	5035003
Instrument:	MS-VOA6				

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	29.48	98.3	85 - 120	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Sequence: 5B03708
Instrument: MS-VOA6
Calibration: 5035003

Surrogate Compound	Spike Level	% Recovery	Recovery Limits	RT	CCV RT	RT Diff	RT Diff Limit	Q
Calibration Check (5B03708-CCV1) ug/L				Lab File ID: 0204CC1.D		Analyzed: 02/04/15 07:28		
Bromofluorobenzene	30.00	104	80 - 120	11.89	11.89	0.0000	+/-1.000	
Dibromofluoromethane	30.00	101	80 - 120	6.54	6.54	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	97.2	80 - 120	7.05	7.05	0.0000	+/-1.000	
Toluene-d8	30.00	102	80 - 120	9.27	9.27	0.0000	+/-1.000	
LCS (5B04008-BS1) ug/L				Lab File ID: 0204LCS1.D		Analyzed: 02/04/15 08:23		
Bromofluorobenzene	30.00	101	75 - 120	11.89	11.89	0.0000	+/-1.000	
Dibromofluoromethane	30.00	103	85 - 115	6.55	6.54	0.0100	+/-1.000	
1,2-Dichloroethane-d4	30.00	100	70 - 120	7.05	7.05	0.0000	+/-1.000	
Toluene-d8	30.00	99.3	85 - 120	9.28	9.27	0.0100	+/-1.000	
Blank (5B04008-BLK1) ug/L				Lab File ID: 0204BLK1.D		Analyzed: 02/04/15 10:14		
Bromofluorobenzene	30.00	99.5	75 - 120	11.88	11.89	-0.0100	+/-1.000	
Dibromofluoromethane	30.00	99.8	85 - 115	6.54	6.54	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	95.2	70 - 120	7.04	7.05	-0.0100	+/-1.000	
Toluene-d8	30.00	100	85 - 120	9.27	9.27	0.0000	+/-1.000	
Trip Blank 14-0842 (1501116-01) ug/L				Lab File ID: 0111601A.D		Analyzed: 02/04/15 10:42		
Bromofluorobenzene	30.00	99.0	75 - 120	11.89	11.89	0.0000	+/-1.000	
Dibromofluoromethane	30.00	97.9	85 - 115	6.54	6.54	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	98.7	70 - 120	7.05	7.05	0.0000	+/-1.000	
Toluene-d8	30.00	99.4	85 - 120	9.27	9.27	0.0000	+/-1.000	
RB012714 (1501116-06) ug/L				Lab File ID: 0111606A.D		Analyzed: 02/04/15 11:37		
Bromofluorobenzene	30.00	99.8	75 - 120	11.89	11.89	0.0000	+/-1.000	
Dibromofluoromethane	30.00	102	85 - 115	6.55	6.54	0.0100	+/-1.000	
1,2-Dichloroethane-d4	30.00	98.2	70 - 120	7.05	7.05	0.0000	+/-1.000	
Toluene-d8	30.00	96.7	85 - 120	9.27	9.27	0.0000	+/-1.000	
48MW3 (1501116-05) ug/L				Lab File ID: 0111605B.D		Analyzed: 02/04/15 12:32		
Bromofluorobenzene	30.00	101	75 - 120	11.88	11.89	-0.0100	+/-1.000	
Dibromofluoromethane	30.00	103	85 - 115	6.54	6.54	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	97.8	70 - 120	7.04	7.05	-0.0100	+/-1.000	
Toluene-d8	30.00	97.9	85 - 120	9.27	9.27	0.0000	+/-1.000	
49MW02 (1501116-02) ug/L				Lab File ID: 0111602B.D		Analyzed: 02/04/15 13:27		
Bromofluorobenzene	30.00	99.1	75 - 120	11.88	11.89	-0.0100	+/-1.000	
Dibromofluoromethane	30.00	102	85 - 115	6.54	6.54	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	97.1	70 - 120	7.04	7.05	-0.0100	+/-1.000	
Toluene-d8	30.00	100	85 - 120	9.27	9.27	0.0000	+/-1.000	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Sequence: 5B03708
Instrument: MS-VOA6
Calibration: 5035003

Surrogate Compound	Spike Level	% Recovery	Recovery Limits	RT	CCV RT	RT Diff	RT Diff Limit	Q
50MW02 (1501116-03) ug/L				Lab File ID: 0111603B.D		Analyzed: 02/04/15 13:54		
Bromofluorobenzene	30.00	101	75 - 120	11.88	11.89	-0.0100	+/-1.000	
Dibromofluoromethane	30.00	105	85 - 115	6.55	6.54	0.0100	+/-1.000	
1,2-Dichloroethane-d4	30.00	99.5	70 - 120	7.05	7.05	0.0000	+/-1.000	
Toluene-d8	30.00	102	85 - 120	9.27	9.27	0.0000	+/-1.000	
49TM01 (1501116-04) ug/L				Lab File ID: 0111604B.D		Analyzed: 02/04/15 14:22		
Bromofluorobenzene	30.00	99.5	75 - 120	11.88	11.89	-0.0100	+/-1.000	
Dibromofluoromethane	30.00	102	85 - 115	6.54	6.54	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	97.4	70 - 120	7.04	7.05	-0.0100	+/-1.000	
Toluene-d8	30.00	99.7	85 - 120	9.27	9.27	0.0000	+/-1.000	
49TM02 (1501116-07) ug/L				Lab File ID: 0111607B.D		Analyzed: 02/04/15 14:49		
Bromofluorobenzene	30.00	99.4	75 - 120	11.88	11.89	-0.0100	+/-1.000	
Dibromofluoromethane	30.00	104	85 - 115	6.54	6.54	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	98.3	70 - 120	7.04	7.05	-0.0100	+/-1.000	
Toluene-d8	30.00	98.3	85 - 120	9.27	9.27	0.0000	+/-1.000	
Matrix Spike (5B04008-MS1) ug/L				Lab File ID: 0111605M.D		Analyzed: 02/04/15 16:39		
Bromofluorobenzene	30.00	105	75 - 120	11.89	11.89	0.0000	+/-1.000	
Dibromofluoromethane	30.00	102	85 - 115	6.54	6.54	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	93.7	70 - 120	7.05	7.05	0.0000	+/-1.000	
Toluene-d8	30.00	100	85 - 120	9.27	9.27	0.0000	+/-1.000	
Matrix Spike Dup (5B04008-MSD1) ug/L				Lab File ID: 0111605S.D		Analyzed: 02/04/15 17:07		
Bromofluorobenzene	30.00	105	75 - 120	11.88	11.89	-0.0100	+/-1.000	
Dibromofluoromethane	30.00	101	85 - 115	6.54	6.54	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	93.3	70 - 120	7.04	7.05	-0.0100	+/-1.000	
Toluene-d8	30.00	100	85 - 120	9.27	9.27	0.0000	+/-1.000	

LCS / LCS DUPLICATE RECOVERY

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Matrix: Water
Batch: 5B04008
Laboratory ID: 5B04008-BS1
Preparation: 5030B
Initial/Final: 5 mL / 5 mL

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	QC LIMITS REC.
Acetone	100.0	131	131	40 - 140
Benzene	50.00	52.5	105	80 - 120
Bromodichloromethane	50.00	57.2	114	75 - 120
Bromoform	50.00	52.3	105	70 - 130
Bromomethane	50.00	59.5	119	30 - 145
2-Butanone	100.0	112	112	30 - 150
Carbon disulfide	50.00	54.4	109	35 - 160
Carbon tetrachloride	50.00	56.6	113	65 - 140
Chlorobenzene	50.00	48.6	97.2	80 - 120
Chloroethane	50.00	47.7	95.3	60 - 135
Chloroform	50.00	52.4	105	65 - 135
Chloromethane	50.00	53.8	108	40 - 125
Dibromochloromethane	50.00	58.0	116	60 - 135
1,1-Dichloroethane	50.00	54.6	109	70 - 135
1,2-Dichloroethane	50.00	55.5	111	70 - 130
1,1-Dichloroethene	50.00	52.8	106	70 - 130
cis-1,2-Dichloroethene	50.00	49.8	99.5	70 - 125
trans-1,2-Dichloroethene	50.00	54.4	109	60 - 140
1,2-Dichloropropane	50.00	51.7	103	75 - 125
cis-1,3-Dichloropropene	50.00	55.0	110	70 - 130
trans-1,3-Dichloropropene	50.00	49.3	98.6	55 - 140
Ethylbenzene	50.00	50.7	101	75 - 125
2-Hexanone	100.0	105	105	55 - 130
Methylene chloride	50.00	50.6	101	55 - 140
4-Methyl-2-pentanone	100.0	104	104	60 - 135
Styrene	50.00	50.7	101	65 - 135
1,1,2,2-Tetrachloroethane	50.00	48.8	97.6	65 - 130
Tetrachloroethene	50.00	52.7	105	45 - 150
Toluene	50.00	50.6	101	75 - 120
1,1,2-Trichloroethane	50.00	49.8	99.6	75 - 125

LCS / LCS DUPLICATE RECOVERY

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501116
Client:	CB&I	Project:	Radford AAP
Matrix:	Water		
Batch:	5B04008	Laboratory ID:	5B04008-BS1
Preparation:	5030B	Initial/Final:	5 mL / 5 mL

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	QC LIMITS REC.
1,1,1-Trichloroethane	50.00	57.5	115	65 - 130
Trichloroethene	50.00	54.8	110	70 - 125
Vinyl chloride	50.00	58.7	117	50 - 145
m,p-Xylene	100.0	98.0	98.0	75 - 130
o-Xylene	50.00	48.9	97.8	80 - 120

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

SW8260B

48MW3

Laboratory: Empirical Laboratories, LLC

SDG: 1501116

Client: CB&I

Project: Radford AAP

Matrix: Water

Batch: 5B04008

% Solids:

Source Sample Name: **1501116-05**

ANALYTE	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC.	Q	QC LIMITS REC.
Acetone	100.0	ND	75.9	75.9		40 - 140
Benzene	50.00	ND	49.6	99.2		80 - 120
Bromodichloromethane	50.00	ND	54.8	110		75 - 120
Bromoform	50.00	ND	51.4	103		70 - 130
Bromomethane	50.00	ND	21.0	42.1		30 - 145
2-Butanone	100.0	ND	79.7	79.7		30 - 150
Carbon disulfide	50.00	ND	46.1	92.2		35 - 160
Carbon tetrachloride	50.00	77.4	119	83.5		65 - 140
Chlorobenzene	50.00	ND	50.7	101		80 - 120
Chloroethane	50.00	ND	42.6	85.2		60 - 135
Chloroform	50.00	8.37	58.2	99.7		65 - 135
Chloromethane	50.00	ND	36.1	72.3		40 - 125
Dibromochloromethane	50.00	ND	59.0	118		60 - 135
1,1-Dichloroethane	50.00	ND	45.6	91.2		70 - 135
1,2-Dichloroethane	50.00	ND	54.3	109		70 - 130
1,1-Dichloroethene	50.00	ND	45.2	90.4		70 - 130
cis-1,2-Dichloroethene	50.00	ND	47.7	95.3		70 - 125
trans-1,2-Dichloroethene	50.00	ND	48.5	97.1		60 - 140
1,2-Dichloropropane	50.00	ND	49.1	98.3		75 - 125
cis-1,3-Dichloropropene	50.00	ND	51.2	102		70 - 130
trans-1,3-Dichloropropene	50.00	ND	51.9	104		55 - 140
Ethylbenzene	50.00	ND	50.4	101		75 - 125
2-Hexanone	100.0	ND	88.7	88.7		55 - 130
Methylene chloride	50.00	ND	47.2	94.4		55 - 140
4-Methyl-2-pentanone	100.0	ND	91.1	91.1		60 - 135
Styrene	50.00	ND	51.5	103		65 - 135
1,1,2,2-Tetrachloroethane	50.00	ND	47.4	94.8		65 - 130
Tetrachloroethene	50.00	ND	51.4	103		45 - 150
Toluene	50.00	ND	49.4	98.7		75 - 120
1,1,2-Trichloroethane	50.00	ND	49.9	99.9		75 - 125
1,1,1-Trichloroethane	50.00	ND	51.9	104		65 - 130
Trichloroethene	50.00	12.4	62.5	100		70 - 125

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

SW8260B

48MW3

Laboratory: Empirical Laboratories, LLC

SDG: 1501116

Client: CB&I

Project: Radford AAP

Matrix: Water

Batch: 5B04008

% Solids:

Source Sample Name: **1501116-05**

ANALYTE	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC.	Q	QC LIMITS REC.
Vinyl chloride	50.00	ND	41.5	83.1		50 - 145
m,p-Xylene	100.0	0.736	101	100		75 - 130
o-Xylene	50.00	0.495	50.6	100		80 - 120

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

SW8260B

48MW3

Laboratory: Empirical Laboratories, LLC

SDG: 1501116

Client: CB&I

Project: Radford AAP

Matrix: Water

Batch: 5B04008

% Solids:

Source Sample Name: **1501116-05**

ANALYTE	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD	Q	QC LIMITS RPD	QC LIMITS REC.
Acetone	100.0	89.1	89.1	16.0		30	40 - 140
Benzene	50.00	50.2	100	1.26		30	80 - 120
Bromodichloromethane	50.00	57.3	115	4.47		30	75 - 120
Bromoform	50.00	56.1	112	8.75		30	70 - 130
Bromomethane	50.00	36.7	73.4	54.3	*	30	30 - 145
2-Butanone	100.0	88.4	88.4	10.4		30	30 - 150
Carbon disulfide	50.00	47.3	94.6	2.49		30	35 - 160
Carbon tetrachloride	50.00	126	97.5	5.74		30	65 - 140
Chlorobenzene	50.00	52.4	105	3.37		30	80 - 120
Chloroethane	50.00	49.6	99.2	15.2		30	60 - 135
Chloroform	50.00	60.3	104	3.47		30	65 - 135
Chloromethane	50.00	44.0	87.9	19.5		30	40 - 125
Dibromochloromethane	50.00	63.4	127	7.18		30	60 - 135
1,1-Dichloroethane	50.00	50.1	100	9.43		30	70 - 135
1,2-Dichloroethane	50.00	57.4	115	5.41		30	70 - 130
1,1-Dichloroethene	50.00	48.3	96.6	6.60		30	70 - 130
cis-1,2-Dichloroethene	50.00	48.6	97.2	1.96		30	70 - 125
trans-1,2-Dichloroethene	50.00	50.7	101	4.35		30	60 - 140
1,2-Dichloropropane	50.00	50.8	102	3.37		30	75 - 125
cis-1,3-Dichloropropene	50.00	53.5	107	4.42		30	70 - 130
trans-1,3-Dichloropropene	50.00	55.2	110	6.23		30	55 - 140
Ethylbenzene	50.00	52.3	105	3.67		30	75 - 125
2-Hexanone	100.0	99.1	99.1	11.1		30	55 - 130
Methylene chloride	50.00	47.7	95.3	0.956		30	55 - 140
4-Methyl-2-pentanone	100.0	101	101	10.3		30	60 - 135
Styrene	50.00	53.5	107	3.78		30	65 - 135
1,1,2,2-Tetrachloroethane	50.00	50.2	100	5.86		30	65 - 130
Tetrachloroethene	50.00	54.2	108	5.27		30	45 - 150
Toluene	50.00	51.5	103	4.28		30	75 - 120
1,1,2-Trichloroethane	50.00	52.2	104	4.41		30	75 - 125
1,1,1-Trichloroethane	50.00	54.4	109	4.76		30	65 - 130
Trichloroethene	50.00	66.3	108	5.97		30	70 - 125
Vinyl chloride	50.00	51.3	103	21.1		30	50 - 145

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

SW8260B

48MW3

Laboratory: Empirical Laboratories, LLC

SDG: 1501116

Client: CB&I

Project: Radford AAP

Matrix: Water

Batch: 5B04008

% Solids:

Source Sample Name: **1501116-05**

ANALYTE	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD	Q	QC LIMITS RPD	QC LIMITS REC.
m,p-Xylene	100.0	105	104	4.08		30	75 - 130
o-Xylene	50.00	51.7	102	2.21		30	80 - 120

PREPARATION BATCH SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC SDG: 1501116

Client: CB&I Project: Radford AAP

Batch: 5B04008 Batch Matrix: Water Preparation: 5030B

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Trip Blank 14-0842	1501116-01	02/04/15 10:42	5.00	5.00
49MW02	1501116-02	02/04/15 13:27	5.00	5.00
50MW02	1501116-03	02/04/15 13:54	5.00	5.00
49TM01	1501116-04	02/04/15 14:22	5.00	5.00
48MW3	1501116-05	02/04/15 12:32	5.00	5.00
RB012714	1501116-06	02/04/15 11:37	5.00	5.00
49TM02	1501116-07	02/04/15 14:49	5.00	5.00
Blank	5B04008-BLK1	02/04/15 10:14	5.00	5.00
LCS	5B04008-BS1	02/04/15 08:23	5.00	5.00
48MW3	5B04008-MS1	02/04/15 16:39	5.00	5.00
48MW3	5B04008-MSD1	02/04/15 17:07	5.00	5.00

ANALYSIS DATA SHEET

Blank

Laboratory: Empirical Laboratories, LLC SDG: 1501116

Client: CB&I Project: Radford AAP

Matrix: Laboratory ID: 5B04008-BLK1 File ID: 0204BLK1.D

Sampled: Prepared: Analyzed: 02/04/15 10:14

Solids: Preparation: 5030B Dilution:

Batch: 5B04008 Sequence: 5B03708 Calibration: 5035003 Instrument: MS-VOA6

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	UX
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	UX
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U
95-47-6	o-Xylene		0.250	0.500	1.00	U

Total Target Analytes Reported: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	29.85	99.5	75 - 120	
Dibromofluoromethane	30.00	29.93	99.8	85 - 115	
1,2-Dichloroethane-d4	30.00	28.57	95.2	70 - 120	

ANALYSIS DATA SHEET

Blank

Laboratory: Empirical Laboratories, LLC SDG: 1501116

Client: CB&I Project: Radford AAP

Matrix: Laboratory ID: 5B04008-BLK1 File ID: 0204BLK1.D

Sampled: Prepared: Analyzed: 02/04/15 10:14

Solids: Preparation: 5030B Dilution:

Batch: 5B04008 Sequence: 5B03708 Calibration: 5035003 Instrument: MS-VOA6

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	30.00	100	85 - 120	

ANALYSIS DATA SHEET

LCS

Laboratory: Empirical Laboratories, LLC SDG: 1501116

Client: CB&I Project: Radford AAP

Matrix: Laboratory ID: 5B04008-BS1 File ID: 0204LCS1.D

Sampled: Prepared: Analyzed: 02/04/15 08:23

Solids: Preparation: 5030B Dilution:

Batch: 5B04008 Sequence: 5B03708 Calibration: 5035003 Instrument: MS-VOA6

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone	**131**	2.50	5.00	10.0	X
71-43-2	Benzene	**52.5**	0.250	0.500	1.00	
75-27-4	Bromodichloromethane	**57.2**	0.250	0.500	1.00	
75-25-2	Bromoform	**52.3**	0.250	0.500	1.00	
74-83-9	Bromomethane	**59.5**	0.500	1.00	2.00	
78-93-3	2-Butanone	**112**	2.50	5.00	10.0	
75-15-0	Carbon disulfide	**54.4**	0.250	0.500	1.00	
56-23-5	Carbon tetrachloride	**56.6**	0.250	0.500	1.00	
108-90-7	Chlorobenzene	**48.6**	0.250	0.500	1.00	
75-00-3	Chloroethane	**47.7**	0.500	1.00	2.00	
67-66-3	Chloroform	**52.4**	0.250	0.500	1.00	
74-87-3	Chloromethane	**53.8**	0.250	0.500	1.00	
124-48-1	Dibromochloromethane	**58.0**	0.250	0.500	1.00	X
75-34-3	1,1-Dichloroethane	**54.6**	0.250	0.500	1.00	
107-06-2	1,2-Dichloroethane	**55.5**	0.250	0.500	1.00	
75-35-4	1,1-Dichloroethene	**52.8**	0.250	0.500	1.00	
156-59-2	cis-1,2-Dichloroethene	**49.8**	0.250	0.500	1.00	
156-60-5	trans-1,2-Dichloroethene	**54.4**	0.250	0.500	1.00	
78-87-5	1,2-Dichloropropane	**51.7**	0.250	0.500	1.00	
10061-01-5	cis-1,3-Dichloropropene	**55.0**	0.250	0.500	1.00	
10061-02-6	trans-1,3-Dichloropropene	**49.3**	0.250	0.500	1.00	
100-41-4	Ethylbenzene	**50.7**	0.250	0.500	1.00	
591-78-6	2-Hexanone	**105**	1.25	2.50	5.00	
75-09-2	Methylene chloride	**50.6**	0.500	1.00	2.00	
108-10-1	4-Methyl-2-pentanone	**104**	1.25	2.50	5.00	
100-42-5	Styrene	**50.7**	0.250	0.500	1.00	
79-34-5	1,1,2,2-Tetrachloroethane	**48.8**	0.250	0.500	1.00	
127-18-4	Tetrachloroethene	**52.7**	0.250	0.500	1.00	
108-88-3	Toluene	**50.6**	0.250	0.500	1.00	
79-00-5	1,1,2-Trichloroethane	**49.8**	0.250	0.500	1.00	
71-55-6	1,1,1-Trichloroethane	**57.5**	0.250	0.500	1.00	
79-01-6	Trichloroethene	**54.8**	0.250	0.500	1.00	
75-01-4	Vinyl chloride	**58.7**	0.250	0.500	1.00	
108-38-3/106-42-	m,p-Xylene	**98.0**	0.500	1.00	2.00	
95-47-6	o-Xylene	**48.9**	0.250	0.500	1.00	

Total Target Analytes Reported: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	30.24	101	75 - 120	
Dibromofluoromethane	30.00	30.77	103	85 - 115	
1,2-Dichloroethane-d4	30.00	30.00	100	70 - 120	

ANALYSIS DATA SHEET

LCS

Laboratory: Empirical Laboratories, LLC SDG: 1501116

Client: CB&I Project: Radford AAP

Matrix: Laboratory ID: 5B04008-BS1 File ID: 0204LCS1.D

Sampled: Prepared: Analyzed: 02/04/15 08:23

Solids: Preparation: 5030B Dilution:

Batch: 5B04008 Sequence: 5B03708 Calibration: 5035003 Instrument: MS-VOA6

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	29.80	99.3	85 - 120	

ANALYSIS DATA SHEET

Matrix Spike

Laboratory: Empirical Laboratories, LLC SDG: 1501116

Client: CB&I Project: Radford AAP

Matrix: Laboratory ID: 5B04008-MS1 File ID: 0111605M.D

Sampled: Prepared: Analyzed: 02/04/15 16:39

Solids: Preparation: 5030B Dilution:

Batch: 5B04008 Sequence: 5B03708 Calibration: 5035003 Instrument: MS-VOA6

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone	**75.9**	2.50	5.00	10.0	X
71-43-2	Benzene	**49.6**	0.250	0.500	1.00	
75-27-4	Bromodichloromethane	**54.8**	0.250	0.500	1.00	
75-25-2	Bromoform	**51.4**	0.250	0.500	1.00	
74-83-9	Bromomethane	**21.0**	0.500	1.00	2.00	
78-93-3	2-Butanone	**79.7**	2.50	5.00	10.0	
75-15-0	Carbon disulfide	**46.1**	0.250	0.500	1.00	
56-23-5	Carbon tetrachloride	**119**	0.250	0.500	1.00	
108-90-7	Chlorobenzene	**50.7**	0.250	0.500	1.00	
75-00-3	Chloroethane	**42.6**	0.500	1.00	2.00	
67-66-3	Chloroform	**58.2**	0.250	0.500	1.00	
74-87-3	Chloromethane	**36.1**	0.250	0.500	1.00	
124-48-1	Dibromochloromethane	**59.0**	0.250	0.500	1.00	X
75-34-3	1,1-Dichloroethane	**45.6**	0.250	0.500	1.00	
107-06-2	1,2-Dichloroethane	**54.3**	0.250	0.500	1.00	
75-35-4	1,1-Dichloroethene	**45.2**	0.250	0.500	1.00	
156-59-2	cis-1,2-Dichloroethene	**47.7**	0.250	0.500	1.00	
156-60-5	trans-1,2-Dichloroethene	**48.5**	0.250	0.500	1.00	
78-87-5	1,2-Dichloropropane	**49.1**	0.250	0.500	1.00	
10061-01-5	cis-1,3-Dichloropropene	**51.2**	0.250	0.500	1.00	
10061-02-6	trans-1,3-Dichloropropene	**51.9**	0.250	0.500	1.00	
100-41-4	Ethylbenzene	**50.4**	0.250	0.500	1.00	
591-78-6	2-Hexanone	**88.7**	1.25	2.50	5.00	
75-09-2	Methylene chloride	**47.2**	0.500	1.00	2.00	
108-10-1	4-Methyl-2-pentanone	**91.1**	1.25	2.50	5.00	
100-42-5	Styrene	**51.5**	0.250	0.500	1.00	
79-34-5	1,1,2,2-Tetrachloroethane	**47.4**	0.250	0.500	1.00	
127-18-4	Tetrachloroethene	**51.4**	0.250	0.500	1.00	
108-88-3	Toluene	**49.4**	0.250	0.500	1.00	
79-00-5	1,1,2-Trichloroethane	**49.9**	0.250	0.500	1.00	
71-55-6	1,1,1-Trichloroethane	**51.9**	0.250	0.500	1.00	
79-01-6	Trichloroethene	**62.5**	0.250	0.500	1.00	
75-01-4	Vinyl chloride	**41.5**	0.250	0.500	1.00	
108-38-3/106-42-	m,p-Xylene	**101**	0.500	1.00	2.00	
95-47-6	o-Xylene	**50.6**	0.250	0.500	1.00	

Total Target Analytes Reported: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	31.54	105	75 - 120	
Dibromofluoromethane	30.00	30.52	102	85 - 115	
1,2-Dichloroethane-d4	30.00	28.10	93.7	70 - 120	

ANALYSIS DATA SHEET

Matrix Spike

Laboratory: Empirical Laboratories, LLC SDG: 1501116

Client: CB&I Project: Radford AAP

Matrix: Laboratory ID: 5B04008-MS1 File ID: 0111605M.D

Sampled: Prepared: Analyzed: 02/04/15 16:39

Solids: Preparation: 5030B Dilution:

Batch: 5B04008 Sequence: 5B03708 Calibration: 5035003 Instrument: MS-VOA6

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	30.12	100	85 - 120	

ANALYSIS DATA SHEET

Matrix Spike Dup

Laboratory: Empirical Laboratories, LLC SDG: 1501116

Client: CB&I Project: Radford AAP

Matrix: Laboratory ID: 5B04008-MSD1 File ID: 0111605S.D

Sampled: Prepared: Analyzed: 02/04/15 17:07

Solids: Preparation: 5030B Dilution:

Batch: 5B04008 Sequence: 5B03708 Calibration: 5035003 Instrument: MS-VOA6

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone	**89.1**	2.50	5.00	10.0	X
71-43-2	Benzene	**50.2**	0.250	0.500	1.00	
75-27-4	Bromodichloromethane	**57.3**	0.250	0.500	1.00	
75-25-2	Bromoform	**56.1**	0.250	0.500	1.00	
74-83-9	Bromomethane	**36.7**	0.500	1.00	2.00	
78-93-3	2-Butanone	**88.4**	2.50	5.00	10.0	
75-15-0	Carbon disulfide	**47.3**	0.250	0.500	1.00	
56-23-5	Carbon tetrachloride	**126**	0.250	0.500	1.00	
108-90-7	Chlorobenzene	**52.4**	0.250	0.500	1.00	
75-00-3	Chloroethane	**49.6**	0.500	1.00	2.00	
67-66-3	Chloroform	**60.3**	0.250	0.500	1.00	
74-87-3	Chloromethane	**44.0**	0.250	0.500	1.00	
124-48-1	Dibromochloromethane	**63.4**	0.250	0.500	1.00	X
75-34-3	1,1-Dichloroethane	**50.1**	0.250	0.500	1.00	
107-06-2	1,2-Dichloroethane	**57.4**	0.250	0.500	1.00	
75-35-4	1,1-Dichloroethene	**48.3**	0.250	0.500	1.00	
156-59-2	cis-1,2-Dichloroethene	**48.6**	0.250	0.500	1.00	
156-60-5	trans-1,2-Dichloroethene	**50.7**	0.250	0.500	1.00	
78-87-5	1,2-Dichloropropane	**50.8**	0.250	0.500	1.00	
10061-01-5	cis-1,3-Dichloropropene	**53.5**	0.250	0.500	1.00	
10061-02-6	trans-1,3-Dichloropropene	**55.2**	0.250	0.500	1.00	
100-41-4	Ethylbenzene	**52.3**	0.250	0.500	1.00	
591-78-6	2-Hexanone	**99.1**	1.25	2.50	5.00	
75-09-2	Methylene chloride	**47.7**	0.500	1.00	2.00	
108-10-1	4-Methyl-2-pentanone	**101**	1.25	2.50	5.00	
100-42-5	Styrene	**53.5**	0.250	0.500	1.00	
79-34-5	1,1,2,2-Tetrachloroethane	**50.2**	0.250	0.500	1.00	
127-18-4	Tetrachloroethene	**54.2**	0.250	0.500	1.00	
108-88-3	Toluene	**51.5**	0.250	0.500	1.00	
79-00-5	1,1,2-Trichloroethane	**52.2**	0.250	0.500	1.00	
71-55-6	1,1,1-Trichloroethane	**54.4**	0.250	0.500	1.00	
79-01-6	Trichloroethene	**66.3**	0.250	0.500	1.00	
75-01-4	Vinyl chloride	**51.3**	0.250	0.500	1.00	
108-38-3/106-42-	m,p-Xylene	**105**	0.500	1.00	2.00	
95-47-6	o-Xylene	**51.7**	0.250	0.500	1.00	

Total Target Analytes Reported: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	31.56	105	75 - 120	
Dibromofluoromethane	30.00	30.36	101	85 - 115	
1,2-Dichloroethane-d4	30.00	27.99	93.3	70 - 120	

ANALYSIS DATA SHEET

Matrix Spike Dup

Laboratory: Empirical Laboratories, LLC SDG: 1501116

Client: CB&I Project: Radford AAP

Matrix: Laboratory ID: 5B04008-MSD1 File ID: 0111605S.D

Sampled: Prepared: Analyzed: 02/04/15 17:07

Solids: Preparation: 5030B Dilution:

Batch: 5B04008 Sequence: 5B03708 Calibration: 5035003 Instrument: MS-VOA6

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	30.13	100	85 - 120	

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501116
Client:	CB&I	Project:	Radford AAP
Lab File ID:	0202TUN1.D	Injection Date:	02/02/15
Instrument ID:	MS-VOA6	Injection Time:	09:15
Sequence:	5B03418	Lab Sample ID:	5B03418-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	22	PASS
75	30 - 60% of 95	49.7	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.52	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	94.5	PASS
175	5 - 9% of 174	7.12	PASS
176	95 - 101% of 174	96.3	PASS
177	5 - 9% of 176	7	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501116
Client:	CB&I	Project:	Radford AAP
Lab File ID:	0204TUN1.D	Injection Date:	02/04/15
Instrument ID:	MS-VOA6	Injection Time:	06:27
Sequence:	5B03708	Lab Sample ID:	5B03708-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	24	PASS
75	30 - 60% of 95	49	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.04	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	94	PASS
175	5 - 9% of 174	8.08	PASS
176	95 - 101% of 174	95.5	PASS
177	5 - 9% of 176	6.84	PASS

ANALYSIS SEQUENCE SUMMARY

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501116
Client:	CB&I	Project:	Radford AAP
Sequence:	5B03418	Instrument:	MS-VOA6
Calibration:	5035003		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	5B03418-TUN1	0202TUN1.D	02/02/15 09:15
Cal Standard	5B03418-CAL1	0202CAL1.D	02/02/15 10:39
Cal Standard	5B03418-CAL2	0202CAL2.D	02/02/15 11:07
Cal Standard	5B03418-CAL3	0202CAL3.D	02/02/15 11:34
Cal Standard	5B03418-CAL4	0202CAL4.D	02/02/15 12:02
Cal Standard	5B03418-CAL5	0202CAL5.D	02/02/15 12:29
Cal Standard	5B03418-CAL6	0202CAL6.D	02/02/15 12:57
Cal Standard	5B03418-CAL7	0202CAL7.D	02/02/15 13:24
Cal Standard	5B03418-CAL8	0202CAL8.D	02/02/15 13:52
Cal Standard	5B03418-CAL9	0202CAL9.D	02/02/15 14:19
Initial Cal Check	5B03418-ICV1	0202ICV1.D	02/02/15 15:14

ANALYSIS SEQUENCE SUMMARY

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501116
Client:	CB&I	Project:	Radford AAP
Sequence:	5B03708	Instrument:	MS-VOA6
Calibration:	5035003		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	5B03708-TUN1	0204TUN1.D	02/04/15 06:27
Calibration Check	5B03708-CCV1	0204CC1.D	02/04/15 07:28
LCS	5B04008-BS1	0204LCS1.D	02/04/15 08:23
Blank	5B04008-BLK1	0204BLK1.D	02/04/15 10:14
Trip Blank 14-0842	1501116-01	0111601A.D	02/04/15 10:42
RB012714	1501116-06	0111606A.D	02/04/15 11:37
48MW3	1501116-05	0111605B.D	02/04/15 12:32
49MW02	1501116-02	0111602B.D	02/04/15 13:27
50MW02	1501116-03	0111603B.D	02/04/15 13:54
49TM01	1501116-04	0111604B.D	02/04/15 14:22
49TM02	1501116-07	0111607B.D	02/04/15 14:49
48MW3	5B04008-MS1	0111605M.D	02/04/15 16:39
48MW3	5B04008-MSD1	0111605S.D	02/04/15 17:07

INTERNAL STANDARD AREA AND RT SUMMARY
SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Sequence: 5B03708
Instrument: MS-VOA6
Calibration: 5035003

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (5B03708-CCV1)			Lab File ID: 0204CC1.D				Analyzed: 02/04/15 07:28		
Fluorobenzene	840243	7.58	801093	7.58	105	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	364889	10.69	340436	10.7	107	50 - 200	-0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	319745	13.08	293475	13.09	109	50 - 200	-0.0100	+/-0.50	
LCS (5B04008-BS1)			Lab File ID: 0204LCS1.D				Analyzed: 02/04/15 08:23		
Fluorobenzene	942506	7.58	801093	7.58	118	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	424862	10.69	340436	10.69	125	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	377870	13.08	293475	13.08	129	50 - 200	0.0000	+/-0.50	
Blank (5B04008-BLK1)			Lab File ID: 0204BLK1.D				Analyzed: 02/04/15 10:14		
Fluorobenzene	940762	7.58	801093	7.58	117	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	400416	10.69	340436	10.69	118	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	401868	13.08	293475	13.08	137	50 - 200	0.0000	+/-0.50	
Trip Blank 14-0842 (1501116-01)			Lab File ID: 0111601A.D				Analyzed: 02/04/15 10:42		
Fluorobenzene	973363	7.58	801093	7.58	122	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	424276	10.69	340436	10.69	125	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	406477	13.08	293475	13.08	139	50 - 200	0.0000	+/-0.50	
RB012714 (1501116-06)			Lab File ID: 0111606A.D				Analyzed: 02/04/15 11:37		
Fluorobenzene	941209	7.57	801093	7.58	117	50 - 200	-0.0100	+/-0.50	
Chlorobenzene-d5	409628	10.69	340436	10.69	120	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	401993	13.08	293475	13.08	137	50 - 200	0.0000	+/-0.50	
48MW3 (1501116-05)			Lab File ID: 0111605B.D				Analyzed: 02/04/15 12:32		
Fluorobenzene	941309	7.57	801093	7.58	118	50 - 200	-0.0100	+/-0.50	
Chlorobenzene-d5	404068	10.7	340436	10.69	119	50 - 200	0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	405791	13.07	293475	13.08	138	50 - 200	-0.0100	+/-0.50	
49MW02 (1501116-02)			Lab File ID: 0111602B.D				Analyzed: 02/04/15 13:27		
Fluorobenzene	893289	7.58	801093	7.58	112	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	382499	10.69	340436	10.69	112	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	381850	13.08	293475	13.08	130	50 - 200	0.0000	+/-0.50	
50MW02 (1501116-03)			Lab File ID: 0111603B.D				Analyzed: 02/04/15 13:54		
Fluorobenzene	875898	7.57	801093	7.58	109	50 - 200	-0.0100	+/-0.50	
Chlorobenzene-d5	373936	10.7	340436	10.69	110	50 - 200	0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	386916	13.08	293475	13.08	132	50 - 200	0.0000	+/-0.50	
49TM01 (1501116-04)			Lab File ID: 0111604B.D				Analyzed: 02/04/15 14:22		
Fluorobenzene	880645	7.58	801093	7.58	110	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	379333	10.69	340436	10.69	111	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	387192	13.08	293475	13.08	132	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Sequence: 5B03708
Instrument: MS-VOA6
Calibration: 5035003

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
49TM02 (1501116-07)			Lab File ID: 0111607B.D				Analyzed: 02/04/15 14:49		
Fluorobenzene	844288	7.57	801093	7.58	105	50 - 200	-0.0100	+/-0.50	
Chlorobenzene-d5	367180	10.7	340436	10.69	108	50 - 200	0.0100	+/-0.50	
1,4-Dichlorobenzene-d4	361023	13.08	293475	13.08	123	50 - 200	0.0000	+/-0.50	
Matrix Spike (5B04008-MS1)			Lab File ID: 0111605M.D				Analyzed: 02/04/15 16:39		
Fluorobenzene	790273	7.58	801093	7.58	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	339343	10.69	340436	10.69	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	322245	13.08	293475	13.08	110	50 - 200	0.0000	+/-0.50	
Matrix Spike Dup (5B04008-MSD1)			Lab File ID: 0111605S.D				Analyzed: 02/04/15 17:07		
Fluorobenzene	796497	7.57	801093	7.58	99	50 - 200	-0.0100	+/-0.50	
Chlorobenzene-d5	340983	10.69	340436	10.69	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	318650	13.07	293475	13.08	109	50 - 200	-0.0100	+/-0.50	

INITIAL CALIBRATION DATA

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Calibration: 5035003
Instrument: MS-VOA6
Matrix: Water
Calibration Dates: 2/2/15 10:39 2/2/15 14:19

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Acetone	1	9.236574E-02	2	9.762586E-02	4	6.827417E-02	10	7.711333E-02	20	7.632549E-02	100	7.933696E-02
Acetonitrile	5	2.710705E-02	10	1.666888E-02	20	1.974842E-02	50	2.129701E-02	100	1.972229E-02	500	2.072974E-02
Acrolein	2.5	1.846005E-02	5	0.0163397	10	1.612724E-02	25	1.660637E-02	50	0.0148139	250	1.597633E-02
Acrylonitrile	2.5	0.0877147	5	8.215069E-02	10	9.575873E-02	25	9.985356E-02	50	0.1131606	250	0.1133263
Benzene	0.5	1.02526	1	0.9283434	2	1.011048	5	1.047478	10	1.019079	50	1.067792
Allyl chloride	0.5	0.1312773	1	0.1091973	2	0.1313703	5	0.1263285	10	0.134224	50	0.1342678
Bromobenzene	0.5	0.7118706	1	0.7133766	2	0.7711292	5	0.8448501	10	0.8645843	50	0.9159169
Bromochloromethane	0.5	0.1773291	1	0.1581765	2	0.1850707	5	0.200995	10	0.2048907	50	0.1983443
Tert-Amyl Methyl Ether	0.5	0.6526524	1	0.5827293	2	0.683359	5	0.7263112	10	0.7882942	50	0.8038435
Bromodichloromethane	0.5	0.3769963	1	0.3602447	2	0.380463	5	0.4319727	10	0.4202187	50	0.4614388
Bromoform	0.5	0.5648978	1	0.4300804	2	0.546589	5	0.592306	10	0.5904716	50	0.6994248
Bromomethane	0.5	7.323752E-02	1	9.716034E-02	2	0.1145504	5	0.1108196	10	0.12476	50	0.1342797
Bromofluorobenzene	30	0.9440099	35	0.9384314	40	0.9263851	50	0.935492	60	0.9183158	70	0.9339239
n-Butylbenzene	0.5	1.515942	1	1.392004	2	1.544273	5	1.656332	10	1.67539	50	1.801498
2-Butanone	1	0.1100856	2	0.1015828	4	0.1203199	10	0.1555208	20	0.1654211	100	0.1730353
sec-Butylbenzene	0.5	2.038833	1	1.752086	2	2.004466	5	2.232618	10	2.211731	50	2.345845
tert-Butylbenzene	0.5	1.720235	1	1.437628	2	1.573864	5	1.735671	10	1.797479	50	1.846415
Carbon disulfide	0.5	0.9940126	1	0.733657	2	0.9563013	5	1.062849	10	1.048366	50	1.06902
Carbon tetrachloride	0.5	0.4034614	1	0.3403937	2	0.3718731	5	0.4318415	10	0.4400483	50	0.5059794
Chlorobenzene	0.5	1.80396	1	1.474974	2	1.636913	5	1.747111	10	1.682238	50	1.671364
Chloroethane	0.5	9.682026E-02	1	8.086719E-02	2	9.284396E-02	5	7.917359E-02	10	9.067532E-02	50	9.066442E-02
Chloroform	0.5	0.6494425	1	0.5666024	2	0.5865715	5	0.6169066	10	0.6094375	50	0.6235727
2-Chloroethyl vinyl ether	1	0.1535171	2	0.1359646	4	0.1601494	10	0.1716647	20	0.1762465	100	0.1770533
Chloromethane	0.5	0.1992742	1	0.1589745	2	0.1361368	5	0.1625643	10	0.1676538	50	0.1695417
1-Chlorohexane	0.5	0.8275631	1	0.6614641	2	0.7332477	5	0.7250196	10	0.7050107	50	0.6798879
2-Chlorotoluene	0.5	1.794754	1	1.566322	2	1.744485	5	1.903654	10	1.869332	50	1.99626
Chloroprene	0.5	0.5815111	1	0.3839529	2	0.5109247	5	0.540556	10	0.5190878	50	0.5504363
4-Chlorotoluene	0.5	2.042306	1	1.970718	2	2.115569	5	2.259053	10	2.220672	50	2.394587
Cyclohexane	0.5	0.4218036	1	0.3582829	2	0.3857096	5	0.387482	10	0.3760332	50	0.3896933
Dibromochloromethane	0.5	0.759538	1	0.6698114	2	0.7599018	5	0.8426347	10	0.8722164	50	0.9720605
1,2-Dibromo-3-chloropropane	0.5	0.1299333	1	0.1222347	2	0.1313337	5	0.1599057	10	0.1658759	50	0.2014918

INITIAL CALIBRATION DATA

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Calibration: 5035003
Instrument: MS-VOA6
Matrix: Water
Calibration Dates: 2/2/15 10:39 2/2/15 14:19

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
1,2-Dibromoethane (EDB)	0.5	0.6699031	1	0.6687973	2	0.6876987	5	0.7494407	10	0.7771721	50	0.7984551
Dibromomethane	0.5	0.2725772	1	0.2256434	2	0.256654	5	0.2665371	10	0.2679398	50	0.281524
1,2-Dichlorobenzene	0.5	1.24755	1	1.139358	2	1.22448	5	1.371033	10	1.346613	50	1.415898
1,3-Dichlorobenzene	0.5	1.33454	1	1.269034	2	1.327608	5	1.399722	10	1.415885	50	1.443999
trans-1,4-Dichloro-2-butene	0.5	0.1938738	1	0.1519145	2	0.2205685	5	0.2422493	10	0.2559528	50	0.3157379
cis-1,4-Dichloro-2-butene	0.5	0.2316066	1	0.180286	2	0.2241782	5	0.2790837	10	0.2810966	50	0.3578892
1,4-Dichlorobenzene	0.5	1.370536	1	1.234285	2	1.357913	5	1.4634	10	1.399438	50	1.464336
Dichlorodifluoromethane	0.5	0.3127334	1	0.2475893	2	0.287019	5	0.3110899	10	0.3798832	50	0.4315387
1,1-Dichloroethane	0.5	0.47683	1	0.4733657	2	0.518726	5	0.5191803	10	0.5252063	50	0.5682375
1,2-Dichloroethane	0.5	0.4521336	1	0.4299727	2	0.4779878	5	0.520257	10	0.521689	50	0.5591358
1,1-Dichloroethene	0.5	0.2993698	1	0.220955	2	0.2596202	5	0.2599663	10	0.2712782	50	0.2886304
cis-1,2-Dichloroethene	0.5	0.3715592	1	0.3003259	2	0.3205731	5	0.3437712	10	0.3471546	50	0.3195401
trans-1,2-Dichloroethene	0.5	0.2729702	1	0.2511804	2	0.2728566	5	0.2988456	10	0.3070266	50	0.2902167
1,2-Dichloroethene (total)	1	0.3222647	2	0.2757531	4	0.2967149	10	0.3213084	20	0.3270906	100	0.3048784
1,2-Dichloropropane	0.5	0.3126679	1	0.2423688	2	0.2832984	5	0.2814041	10	0.2818907	50	0.2993818
1,3-Dichloropropane	0.5	0.9751792	1	0.8774015	2	0.9438268	5	1.067013	10	0.9946146	50	0.9956594
2,2-Dichloropropane	0.5	0.4408663	1	0.3539935	2	0.424116	5	0.4231725	10	0.4187982	50	0.4465619
1,1-Dichloropropene	0.5	0.3898358	1	0.3476425	2	0.3979345	5	0.4080432	10	0.4208413	50	0.4223273
cis-1,3-Dichloropropene	0.5	0.4561951	1	0.368225	2	0.4084963	5	0.4526444	10	0.46868	50	0.4856487
trans-1,3-Dichloropropene	0.5	0.9100455	1	0.822715	2	0.8747595	5	1.01451	10	1.040612	50	1.064785
Diisopropyl Ether	0.5	1.252899	1	0.9950456	2	1.097891	5	1.199641	10	1.160982	50	1.133204
1,4-Dioxane	10	2.220708E-03	20	1.758994E-03	40	2.793892E-03	100	2.908185E-03	200	2.783556E-03	1000	3.100482E-03
Ethylbenzene	0.5	2.703657	1	2.345198	2	2.59883	5	2.709883	10	2.7258	50	2.80646
Ethyl tert-Butyl Ether	0.5	0.9655168	1	0.7973332	2	0.9030639	5	0.9581792	10	0.9375139	50	0.9499394
Ethyl Methacrylate	0.5	0.58179	1	0.5397653	2	0.5752531	5	0.6887377	10	0.6996557	50	0.7568953
Hexachlorobutadiene	0.5	0.5475199	1	0.3864907	2	0.3711679	5	0.3879815	10	0.4119076	50	0.4420974
Hexane	0.5	0.2222673	1	0.1864401	2	0.1983243	5	0.2123144	10	0.1990656	50	0.208551
2-Hexanone	1	0.4053355	2	0.3863937	4	0.434847	10	0.4776519	20	0.4654165	100	0.4825045
Iodomethane	0.5	0.2859408	1	0.3179823	2	0.3771882	5	0.500945	10	0.5634558	50	0.6566268
Isobutyl alcohol	10	4.143357E-03	20	3.498038E-03	40	3.197673E-03	100	3.598392E-03	200	3.388249E-03	1000	5.042662E-03
Isopropylbenzene	0.5	2.196588	1	1.993988	2	2.29844	5	2.405652	10	2.350755	50	2.458237

INITIAL CALIBRATION DATA

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Calibration: 5035003
Instrument: MS-VOA6
Matrix: Water
Calibration Dates: 2/2/15 10:39 2/2/15 14:19

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
p-Isopropyltoluene	0.5	1.704448	1	1.459049	2	1.573067	5	1.76885	10	1.766893	50	1.873712
Methacrylonitrile	5	0.1944463	10	0.1698045	20	0.1924347	50	0.2059673	100	0.2016172	500	0.1820924
Methylene chloride	0.5	0.3617986	1	0.3013567	2	0.3241051	5	0.3557325	10	0.3542642	50	0.3351423
Methyl Acetate	0.5	0.2985837	1	0.2026003	2	0.2572026	5	0.2192648	10	0.2398806	50	0.2250598
Methylcyclohexane	0.5	0.2849581	1	0.2600585	2	0.2946317	5	0.2996463	10	0.2961421	50	0.2968016
Naphthalene	0.5	1.463842	1	1.331582	2	1.507253	5	1.756863	10	1.856909	50	2.09217
Methyl Methacrylate	0.5	0.3169914	1	0.2082197	2	0.2532934	5	0.250117	10	0.2827637	50	0.3001041
4-Methyl-2-pentanone	1	0.3029072	2	0.2291348	4	0.2503872	10	0.2971236	20	0.299679	100	0.3125504
Methyl t-Butyl Ether	0.5	0.7327682	1	0.6129215	2	0.6727801	5	0.7919913	10	0.765892	50	0.7789419
n-Propylbenzene	0.5	2.577827	1	2.395474	2	2.590368	5	2.83942	10	2.818779	50	3.10245
Propionitrile	5	3.212494E-02	10	2.623529E-02	20	3.468746E-02	50	3.873232E-02	100	3.824665E-02	500	3.685232E-02
Styrene	0.5	1.558339	1	1.481059	2	1.573393	5	1.789625	10	1.762506	50	1.712083
1,1,2,2-Tetrachloroethane	0.5	0.7644438	1	0.6982506	2	0.7563967	5	0.8138218	10	0.8302718	50	0.8734846
1,1,1,2-Tetrachloroethane	0.5	0.6718814	1	0.5287656	2	0.5802784	5	0.6731837	10	0.6717398	50	0.7380418
tert-Butyl alcohol	2.5	1.490953E-02	5	1.316087E-02	10	1.365826E-02	25	1.711988E-02	50	0.017101	250	2.204217E-02
Tetrachloroethene	0.5	0.7548203	1	0.6258906	2	0.7308758	5	0.767842	10	0.7582062	50	0.8043942
Toluene	0.5	1.377395	1	1.357098	2	1.390353	5	1.482075	10	1.422153	50	1.35098
1,2,3-Trichlorobenzene	0.5	0.7240271	1	0.6484573	2	0.7064068	5	0.7493404	10	0.7740962	50	0.8536525
1,2,4-Trichlorobenzene	0.5	0.9103228	1	0.7266221	2	0.7821682	5	0.8432108	10	0.864453	50	0.9881869
1,1,2-Trichloroethane	0.5	0.5230479	1	0.4307045	2	0.4918336	5	0.5463435	10	0.5175913	50	0.5236015
1,1,1-Trichloroethane	0.5	0.4541643	1	0.4388508	2	0.4657115	5	0.5044236	10	0.4993047	50	0.5553834
Tetrahydrofuran	0.5	~~1.578734E-02~~	1	3.059121E-02	2	1.940893E-02	5	2.655225E-02	10	0.0266208	50	2.737064E-02
Trichloroethene	0.5	0.3198082	1	0.2715302	2	0.3080053	5	0.3452206	10	0.3318441	50	0.3523398
Trichlorofluoromethane	0.5	0.4116499	1	0.3634701	2	0.4635511	5	0.4965001	10	0.5171413	50	0.5253012
1,2,3-Trichloropropane	0.5	0.230555	1	0.2086822	2	0.2041869	5	0.255161	10	0.2544571	50	0.251836
1,3,5-Trimethylbenzene	0.5	1.829803	1	1.686594	2	1.890551	5	2.068665	10	2.012531	50	2.180349
1,2,4-Trimethylbenzene	0.5	2.241548	1	1.753394	2	2.074099	5	2.162348	10	2.266437	50	2.316508
1,1,2-Trichloro-1,2,2-trifluoroethan	0.5	0.3323857	1	0.2460597	2	0.2730452	5	0.3020965	10	0.3118856	50	0.3291558
Vinyl chloride	0.5	0.1367799	1	0.1040101	2	0.1120986	5	0.1085626	10	0.1090344	50	0.1260533
m,p-Xylene	1	2.027058	2	1.814989	4	1.935494	10	2.11931	20	2.030182	100	2.055715
o-Xylene	0.5	2.243764	1	1.883367	2	2.02615	5	2.197625	10	2.101331	50	2.063283

INITIAL CALIBRATION DATA

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Calibration: 5035003
Instrument: MS-VOA6
Matrix: Water
Calibration Dates: 2/2/15 10:39 2/2/15 14:19

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Vinyl acetate	1	0.5940558	2	0.467314	4	0.5001486	10	0.6268525	20	0.6509055	100	0.7020031
Xylenes (total)	1.5	2.099293	3	1.837782	6	1.965713	15	2.145415	30	2.053898	150	2.058238
Dibromofluoromethane	30	0.3927313	35	0.396407	40	0.4005612	50	0.4164444	60	0.4192139	70	0.414339
1,2-Dichloroethane-d4	30	7.061394E-02	35	6.754387E-02	40	7.064885E-02	50	7.369749E-02	60	7.264068E-02	70	7.306453E-02
Toluene-d8	30	2.17058	35	2.145625	40	2.169159	50	2.176417	60	2.138711	70	2.163127
tert-Amyl alcohol	2.5	~~5.830178E-03~~	5	8.199774E-03	10	7.485812E-03	25	1.201926E-02	50	1.388647E-02	250	1.711781E-02
tert-Amyl ethyl ether	0.5	0.782554	1	0.6177762	2	0.6798269	5	0.779326	10	0.7749051	50	0.8177437
1,3,5-Trichlorobenzene	0.5	0.991472	1	0.8195041	2	0.9222323	5	0.9173234	10	0.9520366	50	1.029788
Diethyl ether	0.5	9.439648E-02	1	8.931303E-02	2	0.0892948	5	0.1085626	10	0.1069376	50	0.1109003
Cyclohexanone (outside certificatio	1.25	4.108901E-02	2.5	4.786819E-02	5	4.232487E-02	12.5	4.450145E-02	25	5.206986E-02	125	4.889323E-02
Ethyl Acetate (outside certification	0.5	0.4489892	1	0.4201636	2	0.4225214	5	0.479383	10	0.4613915	50	0.4739519

INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Calibration: 5035003
Instrument: MS-VOA6
Matrix: Water
Calibration Dates: 2/2/15 10:39 2/2/15 14:19

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Acetone	200	8.201913E-02	300	8.901212E-02	400	9.330513E-02						
Acetonitrile	1000	2.241403E-02	1500	2.466505E-02	2000	2.339675E-02						
Acrolein	500	1.681573E-02	750	1.778853E-02	1000	1.944869E-02						
Acrylonitrile	500	0.1062044	750	0.1133171	1000	0.1124752						
Benzene	100	1.011548	150	1.000306	200	0.9699473						
Allyl chloride	100	0.1306979	150	0.1313264	200	0.1354836						
Bromobenzene	100	0.9273325	150	1.002775	200	0.992267						
Bromochloromethane	100	0.1887189	150	0.1909801	200	0.1893595						
Tert-Amyl Methyl Ether	100	0.768743	150	0.7842484	200	0.786373						
Bromodichloromethane	100	0.4555303	150	0.4873007	200	0.4980519						
Bromoform	100	0.7343089	150	0.8194518	200	~~0.8128094~~						
Bromomethane	100	0.1500309	150	0.1637391	200	~~0.1797221~~						
Bromofluorobenzene	30	1.009018	30	1.030688	30	1.005693						
n-Butylbenzene	100	1.782977	150	1.900994	200	1.900643						
2-Butanone	200	0.1697325	300	0.1814949	400	0.1845444						
sec-Butylbenzene	100	2.305723	150	2.458355	200	2.488166						
tert-Butylbenzene	100	1.821412	150	1.953759	200	1.941843						
Carbon disulfide	100	1.014683	150	1.070544	200	1.08						
Carbon tetrachloride	100	0.5246005	150	0.5745775	200	0.613011						
Chlorobenzene	100	1.545158	150	1.56718	200	1.498048						
Chloroethane	100	9.555595E-02	150	9.999774E-02	200	0.102997						
Chloroform	100	0.5947272	150	0.6234114	200	0.6400033						
2-Chloroethyl vinyl ether	200	0.1675068	300	0.1629254	400	0.1591599						
Chloromethane	100	0.1828484	150	0.1860918	200	0.1956339						
1-Chlorohexane	100	0.6403574	150	0.6299551	200	0.5859773						
2-Chlorotoluene	100	2.03398	150	2.199474	200	2.166599						
Chloroprene	100	0.533914	150	0.5736144	200	0.5994993						
4-Chlorotoluene	100	2.429595	150	2.600808	200	2.640032						
Cyclohexane	100	0.3672416	150	0.3711451	200	0.363371						
Dibromochloromethane	100	1.011626	150	~~1.098177~~	200	~~1.102987~~						
1,2-Dibromo-3-chloropropane	100	0.212228	150	0.2340875	200	~~0.2378948~~						

INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Calibration: 5035003
Instrument: MS-VOA6
Matrix: Water
Calibration Dates: 2/2/15 10:39 2/2/15 14:19

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
1,2-Dibromoethane (EDB)	100	0.7909689	150	0.8417156	200	0.8286723						
Dibromomethane	100	0.2741626	150	0.2859721	200	0.285991						
1,2-Dichlorobenzene	100	1.423058	150	1.533709	200	1.52363						
1,3-Dichlorobenzene	100	1.434891	150	1.528021	200	1.535165						
trans-1,4-Dichloro-2-butene	100	0.345699	150	0.4041542	200	0.4029372						
cis-1,4-Dichloro-2-butene	100	0.3872947	150	0.4465428	200	0.453363						
1,4-Dichlorobenzene	100	1.445883	150	1.535688	200	1.536806						
Dichlorodifluoromethane	100	0.4393415	150	0.4675173	200	~~0.511811~~						
1,1-Dichloroethane	100	0.5543967	150	0.5894901	200	0.6051482						
1,2-Dichloroethane	100	0.556013	150	0.610364	200	0.6416612						
1,1-Dichloroethene	100	0.270181	150	0.2830796	200	0.2885856						
cis-1,2-Dichloroethene	100	0.2970161	150	0.301974	200	0.2991776						
trans-1,2-Dichloroethene	100	0.2685359	150	0.2635591	200	0.2608347						
1,2-Dichloroethene (total)	200	0.282776	300	0.2827665	400	0.2800061						
1,2-Dichloropropane	100	0.2797469	150	0.280396	200	0.2707906						
1,3-Dichloropropane	100	0.9441008	150	0.9811433	200	0.9304436						
2,2-Dichloropropane	100	0.4373698	150	0.4748438	200	0.4817266						
1,1-Dichloropropene	100	0.4000502	150	0.4042118	200	0.3968861						
cis-1,3-Dichloropropene	100	0.4728683	150	0.4793342	200	0.4804521						
trans-1,3-Dichloropropene	100	1.06002	150	1.102497	200	1.070141						
Diisopropyl Ether	100	1.074731	150	1.13429	200	1.151354						
1,4-Dioxane	2000	2.963195E-03	3000	2.978923E-03	4000	2.796154E-03						
Ethylbenzene	100	2.706997	150	2.825471	200	2.771386						
Ethyl tert-Butyl Ether	100	0.9063184	150	0.9552982	200	0.9714106						
Ethyl Methacrylate	100	0.7536439	150	0.7732486	200	0.7354121						
Hexachlorobutadiene	100	0.4755032	150	~~0.5514906~~	200	~~0.575283~~						
Hexane	100	0.1834566	150	0.1908016	200	0.1766385						
2-Hexanone	200	0.4927301	300	0.5262895	400	0.5112754						
Iodomethane	100	0.6524478	150	0.7035355	200	0.7224902						
Isobutyl alcohol	2000	5.151743E-03	3000	6.066352E-03	4000	5.864653E-03						
Isopropylbenzene	100	2.381883	150	2.484913	200	2.425019						

INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Calibration: 5035003
Instrument: MS-VOA6
Matrix: Water
Calibration Dates: 2/2/15 10:39 2/2/15 14:19

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
p-Isopropyltoluene	100	1.835245	150	1.996392	200	2.033376						
Methacrylonitrile	1000	0.1676616	1500	0.1730058	2000	0.1773459						
Methylene chloride	100	0.3114945	150	0.3238542	200	0.3242302						
Methyl Acetate	100	0.2194423	150	0.2397111	200	0.2433237						
Methylcyclohexane	100	0.282453	150	0.2837624	200	0.2760377						
Naphthalene	100	2.156259	150	2.347675	200	2.389487						
Methyl Methacrylate	100	0.30805	150	0.3223757	200	0.327896						
4-Methyl-2-pentanone	200	0.3127365	300	0.3252627	400	0.3277654						
Methyl t-Butyl Ether	100	0.7660302	150	0.7978028	200	0.8199742						
n-Propylbenzene	100	3.125993	150	3.33745	200	3.352167						
Propionitrile	1000	3.873614E-02	1500	4.063067E-02	2000	4.040937E-02						
Styrene	100	1.58033	150	1.572901	200	1.505117						
1,1,2,2-Tetrachloroethane	100	0.8784493	150	0.9330949	200	0.8968849						
1,1,1,2-Tetrachloroethane	100	0.7368953	150	0.8026488	200	0.7960783						
tert-Butyl alcohol	500	2.454794E-02	750	2.846195E-02	1000	0.0301658						
Tetrachloroethene	100	0.7787561	150	0.819738	200	0.8099551						
Toluene	100	1.241057	150	1.210155	200	1.105361						
1,2,3-Trichlorobenzene	100	0.8866834	150	0.9959121	200	~~1.004902~~						
1,2,4-Trichlorobenzene	100	1.001984	150	1.112434	200	1.10558						
1,1,2-Trichloroethane	100	0.4986893	150	0.5108009	200	0.4777871						
1,1,1-Trichloroethane	100	0.5567923	150	0.5991579	200	0.6289769						
Tetrahydrofuran	100	2.711071E-02	150	2.870845E-02	200	2.951487E-02						
Trichloroethene	100	0.3338369	150	0.3407891	200	0.3401928						
Trichlorofluoromethane	100	0.5317514	150	0.5806387	200	~~0.6724042~~						
1,2,3-Trichloropropane	100	0.2507863	150	0.2664029	200	0.256369						
1,3,5-Trimethylbenzene	100	2.194461	150	2.376272	200	2.405772						
1,2,4-Trimethylbenzene	100	2.279612	150	2.453572	200	2.454773						
1,1,2-Trichloro-1,2,2-trifluoroethan	100	0.3178429	150	0.338024	200	0.325687						
Vinyl chloride	100	0.1332654	150	0.1508986	200	~~0.1829809~~						
m,p-Xylene	200	1.932988	300	2.010551	400	2.015946						
o-Xylene	100	1.974195	150	2.021858	200	1.956896						

INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Calibration: 5035003
Instrument: MS-VOA6
Matrix: Water
Calibration Dates: 2/2/15 10:39 2/2/15 14:19

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Vinyl acetate	200	0.7065416	300	0.8098544	400	0.8514395						
Xylenes (total)	300	1.946724	450	2.01432	600	1.996262						
Dibromofluoromethane	30	0.3924413	30	0.3932169	30	0.4141102						
1,2-Dichloroethane-d4	30	6.860627E-02	30	7.141818E-02	30	7.021158E-02						
Toluene-d8	30	2.282978	30	2.355729	30	2.319533						
tert-Amyl alcohol	500	1.896821E-02	750	2.102421E-02	1000	2.113249E-02						
tert-Amyl ethyl ether	100	0.7993259	150	0.8100006	200	0.8290872						
1,3,5-Trichlorobenzene	100	1.037054	150	1.143701	200	1.166302						
Diethyl ether	100	0.1125585	150	0.1261073	200	~~0.1374293~~						
Cyclohexanone (outside certificatio	250	4.675099E-02	375	4.490263E-02	500	0.0409879						
Ethyl Acetate (outside certification	100	0.4494901	150	0.4767351	200	0.4840226						

INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Calibration: 5035003
Instrument: MS-VOA6
Matrix: Water
Calibration Dates: 2/2/15 10:39 2/2/15 14:19

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Acetone	8.393088E-02	11.5101	3.376667	0.1471255			15	
Acetonitrile	2.174991E-02	14.12724	3.441111	0.2266104			15	
Acrolein	1.693073E-02	8.332011	3.265556	0.1607612			15	
Acrylonitrile	0.1026624	11.65835	4.184444	0.2109428			15	
Benzene	1.008978	4.059276	7.3	0.0664954			15	
Allyl chloride	0.1293526	6.198767	4.258889	0.183946			15	
Bromobenzene	0.8604558	12.8055	12.03778	2.976397E-02			15	
Bromochloromethane	0.1882072	7.476277	6.391111	9.636357E-02			15	
Tert-Amyl Methyl Ether	0.7307282	10.41413	7.504445	7.091523E-02			15	
Bromodichloromethane	0.4302463	11.55797	8.298889	6.915689E-02			15	
Bromoform	0.6221913	19.70791	11.4475	4.010131E-02		0.9997845	SPCC (0.1)	
Bromomethane	0.1210722	23.88683	2.51125	0.2550316		0.9999891	0.99	
Bromofluorobenzene	0.9602174	4.411661	11.88778	0.0293839			15	
n-Butylbenzene	1.685561	10.51847	13.47	1.667368E-02			15	
2-Butanone	0.1513041	21.12946	5.847778	7.724973E-02		0.9997759	0.99	
sec-Butylbenzene	2.204203	10.73735	12.93444	3.953806E-02			15	
tert-Butylbenzene	1.758701	9.514128	12.69889	2.356257E-02			15	
Carbon disulfide	1.00327	10.88644	4.347778	0.1532343			15	
Carbon tetrachloride	0.4673096	19.84563	7.266667	7.064074E-02		0.9999241	0.99	
Chlorobenzene	1.625216	6.908378	10.73	1.162253E-02			SPCC (0.3)	
Chloroethane	9.217727E-02	8.689104	2.634445	0.2003557			15	
Chloroform	0.6122972	4.276809	6.367778	6.557009E-02			CCC (30)	
2-Chloroethyl vinyl ether	0.1626875	7.869251	8.666667	5.634014E-02			15	
Chloromethane	0.173191	11.50408	1.978889	0.1689828			SPCC (0.1)	
1-Chlorohexane	0.6876092	10.28372	10.70667	4.788934E-02			15	
2-Chlorotoluene	1.919429	10.61551	12.26333	4.042897E-02			15	
Chloroprene	0.5326107	11.81539	5.65	0.125071			15	
4-Chlorotoluene	2.297038	10.30884	12.32778	0.0377889			15	
Cyclohexane	0.3800847	5.039496	7.198889	0.1085775			15	
Dibromochloromethane	0.8411127	14.54366	9.965714	5.057173E-02			15	
1,2-Dibromo-3-chloropropane	0.1696363	24.79285	14.065	3.617985E-02		0.9998549	0.99	
1,2-Dibromoethane (EDB)	0.7569804	8.839417	10.17778	0.0451998			15	

INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Calibration: 5035003
Instrument: MS-VOA6
Matrix: Water
Calibration Dates: 2/2/15 10:39 2/2/15 14:19

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dibromomethane	0.2685557	6.979533	8.233333	6.379676E-02			15	
1,2-Dichlorobenzene	1.35837	9.877569	13.42	1.364728E-02			15	
1,3-Dichlorobenzene	1.409874	6.337322	13.01778	3.609891E-02			15	
trans-1,4-Dichloro-2-butene	0.2814541	32.13958	11.85667	4.416491E-02	0.9936534		0.99	
cis-1,4-Dichloro-2-butene	0.3157045	31.53625	11.54444	4.910645E-02	0.9939		0.99	
1,4-Dichlorobenzene	1.423143	6.697151	13.10889	0.0193242			15	
Dichlorodifluoromethane	0.359589	22.53271	1.78	1.775104E-02		0.9998617	0.99	
1,1-Dichloroethane	0.5367312	8.623264	5.381111	0.1114214			SPCC (0.1)	
1,2-Dichloroethane	0.5299127	13.2417	7.14	7.130057E-02			15	
1,1-Dichloroethene	0.2712962	8.571995	3.81	0.016838			CCC (30)	
cis-1,2-Dichloroethene	0.3223435	8.197416	6.107778	0.10802			15	
trans-1,2-Dichloroethene	0.2762251	6.726463	4.995555	0.1047216			15	
1,2-Dichloroethene (total)	0.2992843	6.78105	6.107778	0.10802			15	
1,2-Dichloropropane	0.2813272	6.819513	8.121111	3.414986E-02			CCC (30)	
1,3-Dichloropropane	0.9677091	5.452742	9.716667	5.514677E-02			15	
2,2-Dichloropropane	0.4334943	8.556743	6.214444	8.570957E-02			15	
1,1-Dichloropropene	0.3986414	5.508234	7.153333	7.015804E-02			15	
cis-1,3-Dichloropropene	0.4525049	8.675587	8.877778	0.0471416			15	
trans-1,3-Dichloropropene	0.995565	10.05175	9.352222	4.909248E-02			15	
Diisopropyl Ether	1.133338	6.51362	5.773333	8.639571E-02			15	
1,4-Dioxane	2.700454E-03	15.9869	8.286667	5.918969E-02	0.9981378		0.99	
Ethylbenzene	2.688187	5.388549	10.88222	0.0432101			CCC (30)	
Ethyl tert-Butyl Ether	0.9271748	5.867856	6.244444	8.270074E-02			15	
Ethyl Methacrylate	0.6782669	13.16847	9.552222	4.956593E-02			15	
Hexachlorobutadiene	0.4318097	14.47847	15.41714	2.861502E-02			15	
Hexane	0.1975399	7.503724	5.597778	7.861024E-02			15	
2-Hexanone	0.464716	10.14476	9.661111	6.265668E-02			15	
Iodomethane	0.5311792	31.78296	4.002222	0.1095969	0.9978691		0.99	
Isobutyl alcohol	4.439013E-03	25.0319	6.48	7.480633E-02	0.9948859		0.99	
Isopropylbenzene	2.332831	6.605179	11.78	3.794722E-02			15	
p-Isopropyltoluene	1.779004	10.41587	13.07333	3.633067E-02			15	
Methacrylonitrile	0.1849306	7.653592	6.017778	0.2155431			15	

INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Calibration: 5035003
Instrument: MS-VOA6
Matrix: Water
Calibration Dates: 2/2/15 10:39 2/2/15 14:19

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Methylene chloride	0.332442	6.294953	4.308889	0.1392498			15	
Methyl Acetate	0.238341	11.66975	4.171111	0.1444637			15	
Methylcyclohexane	0.2860546	4.406553	8.448889	3.780977E-02			15	
Naphthalene	1.878004	20.86363	15.28111	2.395214E-02		0.9997112	0.99	
Methyl Methacrylate	0.2855346	14.19347	8.27	1.507978E-02			15	
4-Methyl-2-pentanone	0.295283	11.37706	8.807778	0.0459186			15	
Methyl t-Butyl Ether	0.7487891	8.874867	4.998889	6.637381E-02			15	
n-Propylbenzene	2.904436	11.87826	12.18222	2.977815E-02			15	
Propionitrile	3.629502E-02	12.80933	5.565556	0.1303339			15	
Styrene	1.615039	6.909042	11.35111	0.0306115			15	
1,1,2,2-Tetrachloroethane	0.8272332	9.22676	11.70778	3.761273E-02			SPCC (0.3)	
1,1,1,2-Tetrachloroethane	0.6888348	13.32679	10.77444	5.136493E-02			15	
tert-Butyl alcohol	2.012971E-02	31.87009	3.967778	0.1119991	0.9902083		0.99	
Tetrachloroethene	0.7611642	7.674601	10.07556	5.205422E-02			15	
Toluene	1.326292	8.8931	9.343334	5.433999E-02			CCC (30)	
1,2,3-Trichlorobenzene	0.792322	14.23422	15.5625	3.301357E-02			15	
1,2,4-Trichlorobenzene	0.9261069	14.68544	15.13222	2.601294E-02			15	
1,1,2-Trichloroethane	0.5022666	6.670327	9.504445	5.407438E-02			15	
1,1,1-Trichloroethane	0.5225295	12.69949	6.93	7.350092E-02			15	
Tetrahydrofuran	2.698473E-02	12.54796	6.57375	7.764734E-02			15	
Trichloroethene	0.327063	7.56532	8.071111	3.790553E-02			15	
Trichlorofluoromethane	0.4862505	14.48359	3.09	7.599986E-03			15	
1,2,3-Trichloropropane	0.2420485	9.209386	11.83111	2.899675E-02			15	
1,3,5-Trimethylbenzene	2.071666	11.75446	12.36444	0.0407744			15	
1,2,4-Trimethylbenzene	2.222477	9.642958	12.72889	2.355241E-02			15	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.3084647	9.899519	3.883333	0.1819131			15	
Vinyl chloride	0.1225879	13.6656	2.1125	0.2181489			CCC (30)	
m,p-Xylene	1.993581	4.410788	10.99444	4.952602E-02			15	
o-Xylene	2.052052	5.600265	11.37889	3.808236E-02			15	
Vinyl acetate	0.6565683	19.50038	5.465555	0.0966283		0.9995066	0.99	
Xylenes (total)	2.013072	4.522607	11.37889	3.808236E-02			15	
Dibromofluoromethane	0.404385	2.820114	6.538889	4.959556E-02			15	

INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Calibration: 5035003
Instrument: MS-VOA6
Matrix: Water
Calibration Dates: 2/2/15 10:39 2/2/15 14:19

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
1,2-Dichloroethane-d4	7.093838E-02	2.860461	7.044445	7.538962E-02			15	
Toluene-d8	2.21354	3.719206	9.271111	6.341254E-02			15	
tert-Amyl alcohol	1.497925E-02	36.2996	6.75375	7.553646E-02	0.9957777		0.99	
tert-Amyl ethyl ether	0.7656162	9.192938	8.401111	0.0683008			15	
1,3,5-Trichlorobenzene	0.9977126	11.1134	14.58667	3.431237E-02			15	
Diethyl ether	0.1047588	12.28088	3.48125	0.1020481	0.9953386		0.99	
Cyclohexanone (outside certification)	4.548757E-02	8.265964	11.49889	2.916533E-02			15	
Ethyl Acetate (outside certification)	0.4574054	5.237942	6.231111	9.599469E-02			15	

Per current DoD QSM requirements, effective 03/17/2014, Empirical has updated the linear calibration coefficient requirements to reflect a limit of 0.990 for "r2" rather than the previously reported limit of 0.995 for "r". The change in assessment criteria is consistent with regulatory requirements.

INITIAL CALIBRATION CHECK

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501116
Client:	CB&I	Project:	Radford AAP
Instrument ID:	MS-VOA6	Calibration:	5035003
Lab File ID:	0202ICV1.D	Calibration Date:	02/02/15 10:39
Sequence:	5B03418	Injection Date:	02/02/15
Lab Sample ID:	5B03418-ICV1	Injection Time:	15:14

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Acetone	A	100.0	100.4	8.393088E-02	8.423887E-02		0.4	20
Benzene	A	50.00	50.31	1.008978	1.0152		0.6	20
Bromodichloromethane	A	50.00	52.64	0.4302463	0.4529414		5.3	20
Bromoform	Q	50.00	51.79	0.6221913	0.7014564	0.1	3.6	20
Bromomethane	Q	50.00	56.96	0.1210722	0.1563557		13.9	20
2-Butanone	Q	100.0	104.0	0.1513041	0.1751565		4.0	20
Carbon disulfide	A	50.00	51.25	1.00327	1.028372		2.5	20
Carbon tetrachloride	Q	50.00	50.88	0.4673096	0.5003655		1.8	20
Chlorobenzene	A	50.00	49.63	1.625216	1.613108	0.3	-0.7	20
Chloroethane	A	50.00	46.64	9.217727E-02	8.599137E-02		-6.7	20
Chloroform	A	50.00	48.64	0.6122972	0.5956956		-2.7	20
Chloromethane	A	50.00	57.57	0.173191	0.1994128	0.1	15.1	20
Dibromochloromethane	A	50.00	57.88	0.8411127	0.9736608		15.8	20
1,1-Dichloroethane	A	50.00	49.51	0.5367312	0.5315159	0.1	-1.0	20
1,2-Dichloroethane	A	50.00	51.24	0.5299127	0.5430129		2.5	20
1,1-Dichloroethene	A	50.00	49.18	0.2712962	0.2668262		-1.6	20
cis-1,2-Dichloroethene	A	50.00	47.46	0.3223435	0.3059455		-5.1	20
trans-1,2-Dichloroethene	A	50.00	51.60	0.2762251	0.2850756		3.2	20
1,2-Dichloropropane	A	50.00	51.25	0.2813272	0.2883871		2.5	20
cis-1,3-Dichloropropene	A	50.00	52.07	0.4525049	0.4711983		4.1	20
trans-1,3-Dichloropropene	A	50.00	50.05	0.995565	0.9965729		0.1	20
Ethylbenzene	A	50.00	50.68	2.688187	2.724548		1.4	20
2-Hexanone	A	100.0	105.4	0.464716	0.4897024		5.4	20
Methylene chloride	A	50.00	48.29	0.332442	0.3210682		-3.4	20
4-Methyl-2-pentanone	A	100.0	104.3	0.295283	0.307896		4.3	20
Styrene	A	50.00	51.52	1.615039	1.664019		3.0	20
1,1,2,2-Tetrachloroethane	A	50.00	50.25	0.8272332	0.8314448	0.3	0.5	20
Tetrachloroethene	A	50.00	51.95	0.7611642	0.7908387		3.9	20
Toluene	A	50.00	51.42	1.326292	1.363876		2.8	20

INITIAL CALIBRATION CHECK

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501116
Client:	CB&I	Project:	Radford AAP
Instrument ID:	MS-VOA6	Calibration:	5035003
Lab File ID:	0202ICV1.D	Calibration Date:	02/02/15 10:39
Sequence:	5B03418	Injection Date:	02/02/15
Lab Sample ID:	5B03418-ICV1	Injection Time:	15:14

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
1,1,2-Trichloroethane	A	50.00	52.11	0.5022666	0.5234901		4.2	20
1,1,1-Trichloroethane	A	50.00	51.29	0.5225295	0.5360241		2.6	20
Trichloroethene	A	50.00	51.20	0.327063	0.3349314		2.4	20
Vinyl chloride	A	50.00	55.75	0.1225879	0.1366751		11.5	20
m,p-Xylene	A	100.0	102.0	1.993581	2.032926		2.0	20
o-Xylene	A	50.00	49.37	2.052052	2.026383		-1.3	20
Bromofluorobenzene	A	30.00	30.82	0.9602174	0.9864592		2.7	20
Dibromofluoromethane	A	30.00	28.80	0.404385	0.3882326		-4.0	20
1,2-Dichloroethane-d4	A	30.00	28.64	7.093838E-02	6.773285E-02		-4.5	20
Toluene-d8	A	30.00	30.37	2.21354	2.240681		1.2	20

CONTINUING CALIBRATION CHECK

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501116
Client:	CB&I	Project:	Radford AAP
Instrument ID:	MS-VOA6	Calibration:	5035003
Lab File ID:	0204CC1.D	Calibration Date:	02/02/15 10:39
Sequence:	5B03708	Injection Date:	02/04/15
Lab Sample ID:	5B03708-CCV1	Injection Time:	07:28

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Acetone	A	200.0	258.6	8.393088E-02	0.1085109		29.3	20 *
Benzene	A	100.0	99.21	1.008978	1.001047		-0.8	20
Bromodichloromethane	A	100.0	111.7	0.4302463	0.4805599		11.7	20
Bromoform	Q	100.0	102.5	0.6221913	0.7681744	0.1	2.5	20
Bromomethane	Q	100.0	105.6	0.1210722	0.1596706		5.6	20
2-Butanone	Q	200.0	209.3	0.1513041	0.1825197		4.6	20
Carbon disulfide	A	100.0	102.4	1.00327	1.026976		2.4	20
Carbon tetrachloride	Q	100.0	106.5	0.4673096	0.5720781		6.5	20
Chlorobenzene	A	100.0	95.10	1.625216	1.5455	0.3	-4.9	20
Chloroethane	A	100.0	104.4	9.217727E-02	9.622895E-02		4.4	20
Chloroform	A	100.0	103.0	0.6122972	0.6304069		3.0	20
Chloromethane	A	100.0	100.5	0.173191	0.174025	0.1	0.5	20
Dibromochloromethane	A	100.0	121.4	0.8411127	1.021444		21.4	20 *
1,1-Dichloroethane	A	100.0	101.2	0.5367312	0.542984	0.1	1.2	20
1,2-Dichloroethane	A	100.0	115.6	0.5299127	0.6127031		15.6	20
1,1-Dichloroethene	A	100.0	104.1	0.2712962	0.2824776		4.1	20
cis-1,2-Dichloroethene	A	100.0	94.53	0.3223435	0.3047222		-5.5	20
trans-1,2-Dichloroethene	A	100.0	100.6	0.2762251	0.2778132		0.6	20
1,2-Dichloropropane	A	100.0	96.79	0.2813272	0.2722952		-3.2	20
cis-1,3-Dichloropropene	A	100.0	105.4	0.4525049	0.4768135		5.4	20
trans-1,3-Dichloropropene	A	100.0	106.6	0.995565	1.061537		6.6	20
Ethylbenzene	A	100.0	101.0	2.688187	2.714949		1.0	20
2-Hexanone	A	200.0	208.1	0.464716	0.4834215		4.0	20
Methylene chloride	A	100.0	96.72	0.332442	0.321552		-3.3	20
4-Methyl-2-pentanone	A	200.0	203.0	0.295283	0.2996408		1.5	20
Styrene	A	100.0	96.19	1.615039	1.55348		-3.8	20
1,1,2,2-Tetrachloroethane	A	100.0	98.91	0.8272332	0.818242	0.3	-1.1	20
Tetrachloroethene	A	100.0	103.7	0.7611642	0.7891915		3.7	20
Toluene	A	100.0	91.07	1.326292	1.207895		-8.9	20

CONTINUING CALIBRATION CHECK

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501116
Client:	CB&I	Project:	Radford AAP
Instrument ID:	MS-VOA6	Calibration:	5035003
Lab File ID:	0204CC1.D	Calibration Date:	02/02/15 10:39
Sequence:	5B03708	Injection Date:	02/04/15
Lab Sample ID:	5B03708-CCV1	Injection Time:	07:28

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
1,1,2-Trichloroethane	A	100.0	96.82	0.5022666	0.4863172		-3.2	20
1,1,1-Trichloroethane	A	100.0	114.7	0.5225295	0.599197		14.7	20
Trichloroethene	A	100.0	103.6	0.327063	0.3388173		3.6	20
Vinyl chloride	A	100.0	114.9	0.1225879	0.1407971		14.9	20
m,p-Xylene	A	200.0	197.0	1.993581	1.963311		-1.5	20
o-Xylene	A	100.0	95.90	2.052052	1.967921		-4.1	20
Bromofluorobenzene	A	30.00	31.27	0.9602174	1.000913		4.2	20
Dibromofluoromethane	A	30.00	30.17	0.404385	0.4067335		0.6	20
1,2-Dichloroethane-d4	A	30.00	29.17	7.093838E-02	6.896933E-02		-2.8	20
Toluene-d8	A	30.00	30.49	2.21354	2.249347		1.6	20

HOLDING TIME SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC SDG: 1501116

Client: CB&I Project: Radford AAP

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
Trip Blank 14-0842	01/27/15 08:00	01/28/15 08:40	02/04/15 10:42	N/A	14.00	02/04/15 10:42	8.15	14.00	
49MW02	01/27/15 10:55	01/28/15 08:40	02/04/15 13:27	N/A	14.00	02/04/15 13:27	8.15	14.00	
50MW02	01/27/15 12:55	01/28/15 08:40	02/04/15 13:54	N/A	14.00	02/04/15 13:54	8.08	14.00	
49TM01	01/27/15 12:55	01/28/15 08:40	02/04/15 14:22	N/A	14.00	02/04/15 14:22	8.10	14.00	
48MW3	01/27/15 14:35	01/28/15 08:40	02/04/15 12:32	N/A	14.00	02/04/15 12:32	7.96	14.00	
RB012714	01/27/15 15:15	01/28/15 08:40	02/04/15 11:37	N/A	14.00	02/04/15 11:37	7.89	14.00	
49TM02	01/27/15 14:35	01/28/15 08:40	02/04/15 14:49	N/A	14.00	02/04/15 14:49	8.05	14.00	

Data for SW8260B
Supporting Raw Data / Logs

Sequence Name: C:\HPCHEM\1\SEQUENCE\020215V6.S
Comment: 8260B/C/624
Operator:
Data Path: d:\DATA\020215V6\
Pre-Seq Cmd:
Post-Seq Cmd:

mm 1/5
1281

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name	
1	Sample	47	PREBLK1	VW6SUR	PREBLK1	
2	Sample	48	PREBLK2	VW6SUR	PREBLK2	
3	Sample	49	PREBLK3	VW6SUR	PREBLK3	
4	Sample	51	0202TUN1	VW6SUR	SEQ-TUN1 9:15, 2/2	
5	Sample	1	BLANK	VW6SUR	BLANK	
6	Sample	2	0202CALA	VW6SUR	SEQ-CALA	
7	Sample	3	0202CAL1	VW6SUR	SEQ-CAL1	
8	Sample	4	0202CAL2	VW6SUR	SEQ-CAL2	
9	Sample	5	0202CAL3	VW6SUR	SEQ-CAL3	
10	Sample	6	0202CAL4	VW6SUR	SEQ-CAL4	
11	Sample	7	0202CAL5	VW6SUR	SEQ-CAL5	
12	Sample	8	0202CAL6	VW6SUR	SEQ-CAL6	
13	Sample	9	0202CAL7	VW6SUR	SEQ-CAL7	ALSO CCV1
14	Sample	10	0202CAL8	VW6SUR	SEQ-CAL8	
15	Sample	11	0202CAL9	VW6SUR	SEQ-CAL9	
16	Sample	12	BLK1	VW6SUR	BLANK1	
17	Sample	13	0202ICV1	VW6SUR	SEQ-ICV1	ALSO LCS1
18	Sample	14	0202ICV2	VW6SUR	SEQ-ICV2	
19	Sample	15	0202ICV3	VW6SUR	SEQ-ICV3 -RR	
20	Sample	16	BLK2	VW6SUR	BLANK2	
21	Sample	17	BLK3	VW6SUR	BLANK3	
22	Sample	18	0202BLK1	VW6SUR	5B-BLK1	
23	Sample	19	0105309A	VW6SUR	1501053-09 -RR 2X as well flow	
24	Sample	20	0105317A	VW6SUR	1501053-17	
25	Sample	21	BLK4	VW6SUR	BLANK4	
26	Sample	22	0202LCD1	VW6SUR	5B-BSD1	
27	Sample	23	0202HCV1	VW6SUR	SEQ-HCV1	

7:49, 2/2

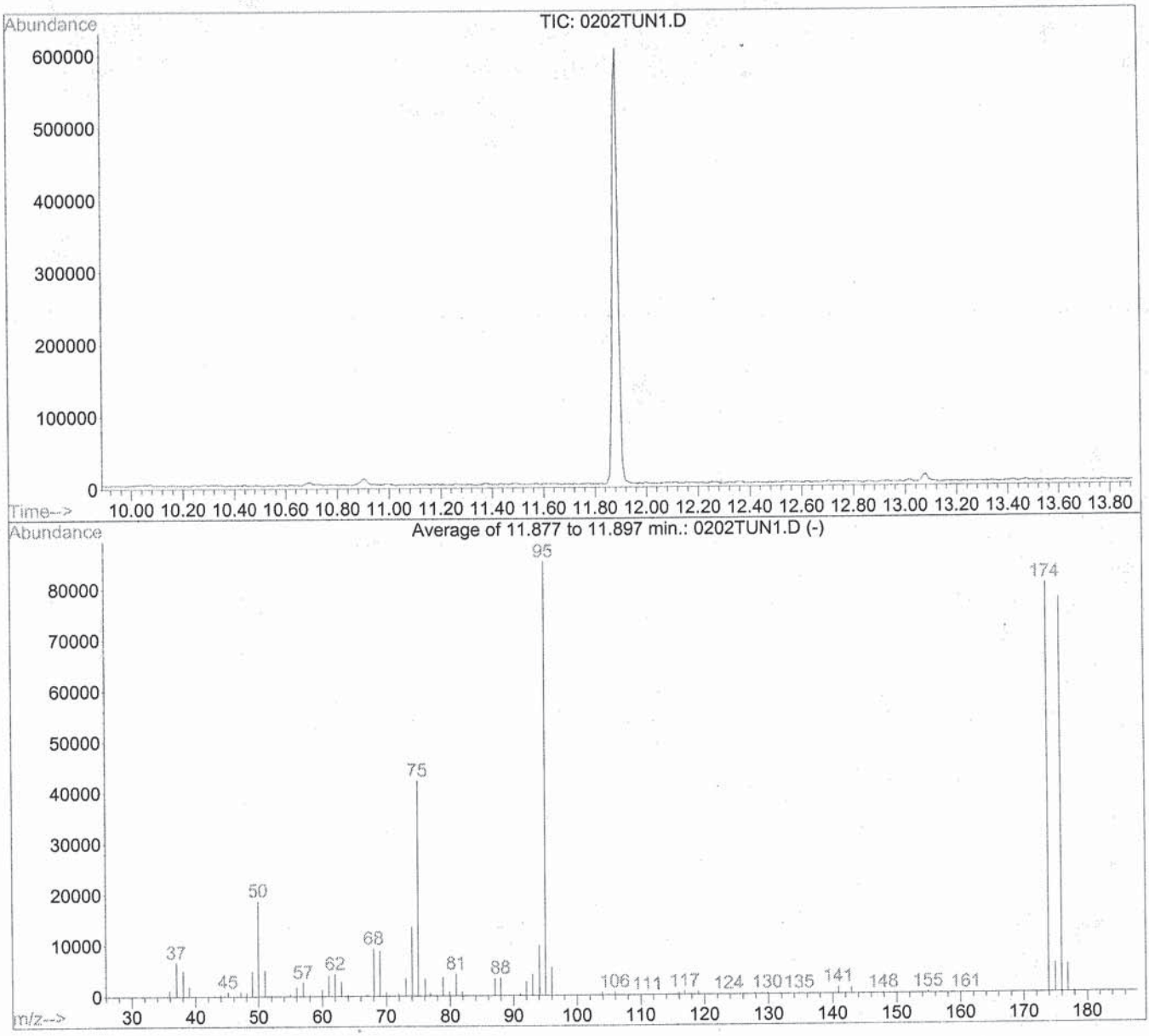
PT batch = SB02019

Last Modified: Mon Feb 02 10:32:40 2015 Page: 1

BFB

Data File : D:\DATA\020215V6\0202TUN1.D
Acq On : 2 Feb 2015 9:15 am
Sample : SEQ-TUN1
Misc : 1
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B

Vial: 51
Operator:
Inst : NSH-VOA6
Multiplr: 1.00



AutoFind: Scans 1152, 1153, 1154; Background Corrected with Scan 1146

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.0	18783	PASS
75	95	30	60	49.7	42353	PASS
95	95	100	100	100.0	85259	PASS
96	95	5	9	6.5	5556	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	94.5	80547	PASS
175	174	5	9	7.1	5736	PASS
176	174	95	101	96.3	77573	PASS
177	176	5	9	7.0	5430	PASS

0202TUN1.D 020215W6.M Mon Feb 02 10:44:39 2015

2/2/15

02/05/15

Average of 11.877 to 11.897 min.: 0202TUN1.D
SEQ-TUN1
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.95	1183	48.05	720	62.00	4357	74.05	13541
37.00	6652	49.00	4898	63.00	2855	75.00	42353
38.05	5010	50.00	18783	64.00	323	76.05	3375
39.00	1857	51.05	5185	64.70	53	76.90	527
39.95	213	52.05	246	66.90	253	77.85	121
40.75	55	55.00	420	67.15	241	78.85	3649
42.95	246	56.00	1668	68.05	9291	79.90	923
43.20	68	57.00	2692	69.00	8800	80.95	4351
43.95	389	58.05	283	70.00	710	81.90	735
45.10	851	60.00	1270	71.95	507	82.85	106
47.10	871	61.05	4049	73.05	3477	85.85	63

Average of 11.877 to 11.897 min.: 0202TUN1.D
SEQ-TUN1
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
87.05	3331	102.90	53	116.00	418	137.00	184
87.95	3460	103.95	593	116.90	673	140.90	1363
91.00	363	104.85	156	117.85	222	141.90	137
91.25	74	105.95	688	118.05	172	142.90	1132
92.00	2699	107.00	109	119.00	583	145.85	76
93.00	4134	110.75	67	123.80	124	146.05	115
94.05	9810	111.05	75	127.85	269	147.90	203
95.00	85259	112.05	72	128.95	245	149.80	66
96.00	5556	112.95	68	129.85	299	154.00	78
96.80	67	114.80	77	131.05	56	154.90	315
97.10	77	115.10	70	134.80	195	156.65	65

Average of 11.877 to 11.897 min.: 0202TUN1.D
SEQ-TUN1
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
156.95	113						
158.75	188						
160.90	62						
170.05	70						
171.55	63						
173.90	80547						
175.00	5736						
175.95	77573						
176.95	5430						
177.90	175						

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL1.D Vial: 3
Acq On : 2 Feb 2015 10:39 am Operator:
Sample : SEQ-CAL1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:44 2015 Quant Results File: 020215W6.RES

02/05/15

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:21:31 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

my3/15

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	7.57	96	915924	30.00	ug/L		0.00
60) Chlorobenzene-d5	10.69	82	394266	30.00	ug/L		0.00
83) 1,4-Dichlorobenzene-d4	13.08	152	380041	30.00	ug/L		0.00
System Monitoring Compounds							
38) Dibromofluoromethane	6.53	111	359712	29.38	ug/L		0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 97.93%				
42) 1,2-Dichloroethane-d4	7.04	102	64677	30.01	ug/L		0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 100.03%				
61) Toluene-d8	9.26	98	855786	29.46	ug/L		0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 98.20%				
82) Bromofluorobenzene	11.89	95	372191	29.50	ug/L		0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 98.33%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.78	85	4774	0.4246	ug/L		93
3) Chloromethane	1.98	50	3042	0.5973	ug/L		92
4) Vinyl chloride	2.11	62	2088	0.5428	ug/L	#	71
5) Bromomethane	2.52	94	1118m	0.2804	ug/L		
6) Chloroethane	2.63	64	1478m	0.5465	ug/L		
7) Trichlorofluoromethane	3.09	101	6284	0.4222	ug/L	#	76
8) Acrolein	3.26	56	1409	2.8044	ug/L	#	47
9) Acetone	3.37	43	2820m	1.1145	ug/L		
10) Acetonitrile	3.43	41	4138	6.4295	ug/L		98
11) Ethyl Ether	3.48	59	1441	0.4285	ug/L	#	47
12) 1,1-Dichloroethene	3.81	96	4570	0.5540	ug/L	#	73
13) Trichlorotrifluoroethane	3.88	101	5074	0.5453	ug/L		82
14) Iodomethane	4.00	142	4365	0.2707	ug/L	#	97
15) t-Butyl Alcohol	3.97	59	1138	1.7006	ug/L	#	1
16) Methyl Acetate	4.16	43	4558	0.6161	ug/L	#	79
17) Acrylonitrile	4.18	53	6695	2.0276	ug/L	#	87
18) Allyl chloride	4.27	76	2004	0.5026	ug/L	#	75
19) Methylene chloride	4.30	84	5523	0.5502	ug/L		93
20) Carbon disulfide	4.34	76	15174	0.4949	ug/L		98
21) trans-1,2-dichloroethene	5.00	96	4167	0.4861	ug/L		97
22) MTBE	5.00	73	11186	0.4885	ug/L	#	89
23) 1,1-Dichloroethane	5.38	63	7279	0.4403	ug/L	#	90
24) Vinyl acetate	5.46	43	18137	0.8789	ug/L		98
25) Propionitrile	5.57	54	4904	4.1699	ug/L	#	86
26) Hexane	5.60	57	3393	0.5458	ug/L	#	77
27) Chloroprene	5.65	53	8877	0.5592	ug/L		98
28) Di-isopropyl ether	5.77	45	19126	0.5452	ug/L		96
29) 2-Butanone	5.84	43	3361	0.6910	ug/L	#	91
30) Methacrylonitrile	6.01	41	29683	5.1020	ug/L		94
31) cis-1,2-Dichloroethene	6.11	96	5672	0.5682	ug/L	#	82
32) Ethyl Acetate	6.23	43	6854	0.4938	ug/L	#	85
33) 2,2-Dichloropropane	6.21	77	6730	0.5108	ug/L		99
34) ETBE	6.24	59	14739	0.5176	ug/L		100
35) Chloroform	6.37	83	9914	0.5387	ug/L		85
36) Bromochloromethane	6.39	128	2707	0.4627	ug/L		88
37) Isobutyl alcohol	6.48	42	1265	8.4161	ug/L	#	71
39) Tetrahydrofuran	6.57	72	241	0.2925	ug/L	#	1
40) tert-Amyl alcohol	6.74	59	445	0.9580	ug/L	#	1
41) 1,1,1-Trichloroethane	6.93	97	6933	0.4391	ug/L		93

(#) = qualifier out of range (m) = manual integration
0202CAL1.D 020215W6.M Tue Feb 03 06:47:10 2015 Page 1

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL1.D
Acq On : 2 Feb 2015 10:39 am
Sample : SEQ-CAL1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:44 2015

Vial: 3
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:21:31 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloroethane	7.14	62	6902	0.4294	ug/L	#	95
44)	1,1-Dichloropropene	7.15	75	5951	0.4783	ug/L		98
45)	Cyclohexane	7.19	56	6439	0.5382	ug/L		86
46)	Carbon tetrachloride	7.26	117	6159	0.4342	ug/L		90
47)	Benzene	7.30	78	15651	0.5009	ug/L		98
48)	tert- Amyl Methyl Ether	7.50	73	9963	0.4395	ug/L	#	88
49)	Trichloroethene	8.07	95	4882	0.4792	ug/L		96
50)	1,2-Dichloropropane	8.12	63	4773	0.5552	ug/L		94
51)	Dibromomethane	8.23	93	4161	0.5097	ug/L		92
52)	Methyl methacrylate	8.27	41	4839	0.5359	ug/L	#	93
53)	1,4-Dioxane	8.28	88	678	8.1072	ug/L	#	95
54)	Bromodichloromethane	8.30	83	5755	0.4387	ug/L		95
55)	tert- Amyl Ethyl Ether	8.40	59	11946	0.5099	ug/L		96
56)	Methyl cyclohexane	8.45	83	4350	0.4888	ug/L	#	81
57)	2-Chloroethyl vinyl ether	8.66	63	4687	0.9487	ug/L		96
58)	4-Methyl-2-pentanone	8.81	43	9248	0.9985	ug/L	#	86
59)	cis-1,3-Dichloropropene	8.87	75	6964	0.5014	ug/L		92
62)	trans-1,3-Dichloropropene	9.35	75	5980	0.4480	ug/L	#	93
63)	Toluene	9.34	92	9051	0.5083	ug/L		97
64)	1,1,2-Trichloroethane	9.50	83	3437	0.5130	ug/L		87
65)	Ethyl methacrylate	9.55	69	3823	0.4043	ug/L		89
66)	2-Hexanone	9.66	43	5327	0.8158	ug/L	#	95
67)	1,3-Dichloropropane	9.72	76	6408	0.5034	ug/L		99
68)	Dibromochloromethane	9.96	129	4991	0.4145	ug/L		95
69)	Tetrachloroethene	10.07	166	4960	0.4919	ug/L		98
70)	1,2-Dibromoethane	10.17	107	4402	0.4366	ug/L		83
71)	1-Chlorohexane	10.70	91	5438	0.6175	ug/L	#	1
72)	Chlorobenzene	10.73	112	11854	0.5574	ug/L		90
73)	1,1,1,2-Tetrachloroethane	10.77	131	4415	0.4863	ug/L	#	1
74)	Ethylbenzene	10.88	91	17766	0.4999	ug/L		97
75)	m,p-Xylene	10.99	91	26640	1.0122	ug/L	#	81
76)	Styrene	11.35	104	10240	0.4788	ug/L		87
77)	o-Xylene	11.38	91	14744	0.5480	ug/L		93
78)	Bromoform	11.44	173	3712	0.4324	ug/L		98
79)	Cyclohexanone	11.50	55	675	0.5723	ug/L	#	63
80)	Isopropylbenzene	11.78	105	14434	0.4644	ug/L		91
81)	1,2,3-Trichloropropane	11.83	110	1515	0.4677	ug/L	#	1
84)	cis-1,4-Dichloro-2-butene	11.54	53	1467	0.3550	ug/L	#	78
85)	1,1,2,2-Tetrachloroethane	11.71	83	4842	0.4599	ug/L		95
86)	trans-1,4-Dichloro-2-buten	11.85	53	1228	0.3315	ug/L	#	1
87)	Bromobenzene	12.03	156	4509	0.4053	ug/L		86
88)	n-Propylbenzene	12.18	91	16328	0.4442	ug/L		97
89)	2-Chlorotoluene	12.26	91	11368	0.4705	ug/L		93
90)	4-Chlorotoluene	12.32	91	12936	0.4444	ug/L		96
91)	1,3,5-Trimethylbenzene	12.36	105	11590	0.4398	ug/L		92
92)	tert-Butylbenzene	12.69	119	10896	0.4910	ug/L		93
93)	1,2,4-Trimethylbenzene	12.73	105	14198	0.5077	ug/L		93
94)	sec-Butylbenzene	12.93	105	12914	0.4628	ug/L		100
95)	1,3-Dichlorobenzene	13.01	146	8453	0.4735	ug/L		93
96)	1,4-Dichlorobenzene	13.11	146	8681m	0.4750	ug/L		
97)	p-Isopropyltoluene	13.07	119	10796	0.4777	ug/L	#	88
98)	1,2-Dichlorobenzene	13.42	146	7902	0.4541	ug/L		94
99)	n-Butylbenzene	13.47	91	9602	0.4500	ug/L		98

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

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL1.D
Acq On : 2 Feb 2015 10:39 am
Sample : SEQ-CAL1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:44 2015

Vial: 3
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:21:31 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
100) 1,2-Dibromo-3-chloropropan	14.06	157	823	0.3572 ug/L #	70
101) 1,3,5-Trichlorobenzene	14.59	180	6280	0.4992 ug/L	91
102) 1,2,4-Trichlorobenzene	15.13	180	5766	0.4938 ug/L	94
103) Naphthalene	15.28	128	9272	0.3851 ug/L	100
104) Hexachlorobutadiene	15.41	225	3468	0.6141 ug/L	92
105) 1,2,3-Trichlorobenzene	15.56	180	4586	0.4418 ug/L	97
106) 2-Methylnaphthalene	16.42	142	955	0.1008 ug/L #	79
107) 1-Methylnaphthalene	16.65	142	697m	0.0906 ug/L	

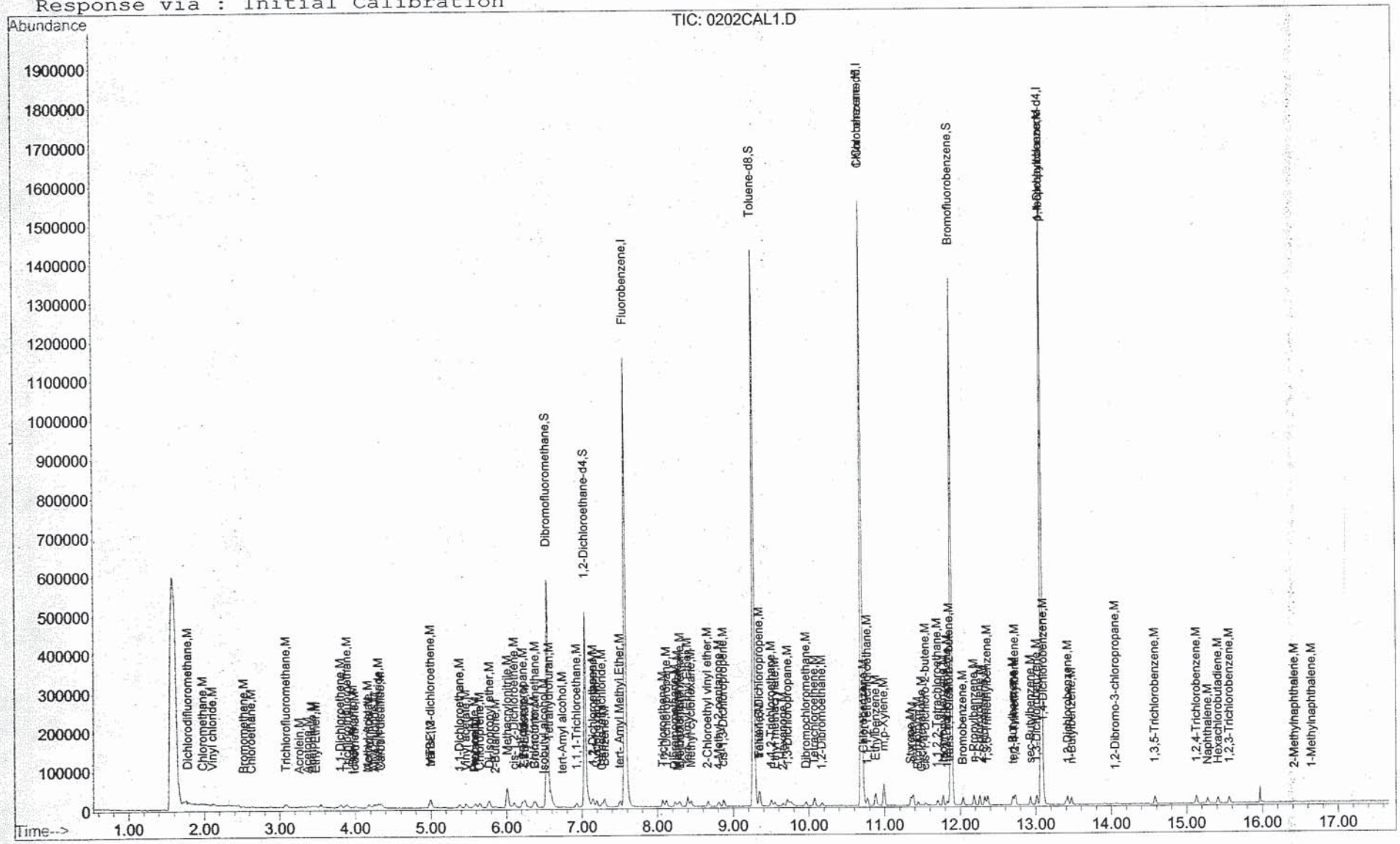
(#) = qualifier out of range (m) = manual integration

Data File : D:\DATA\020215V6\0202CAL1.D
Acq On : 2 Feb 2015 10:39 am
Sample : SEQ-CAL1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:44 2015

Vial: 3
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:42:32 2015
Response via : Initial Calibration

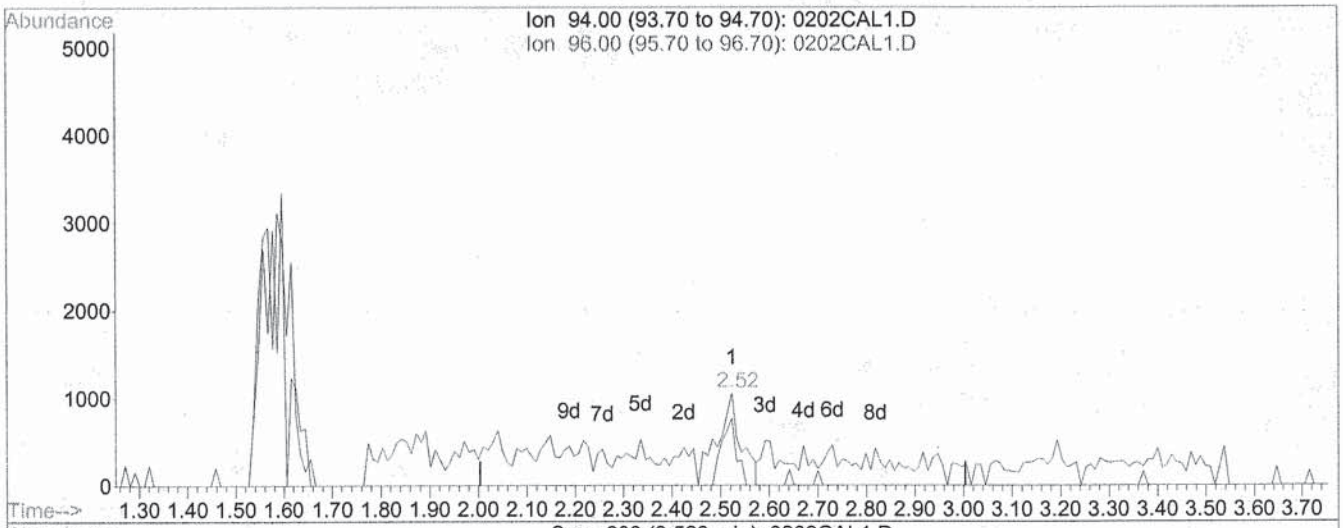


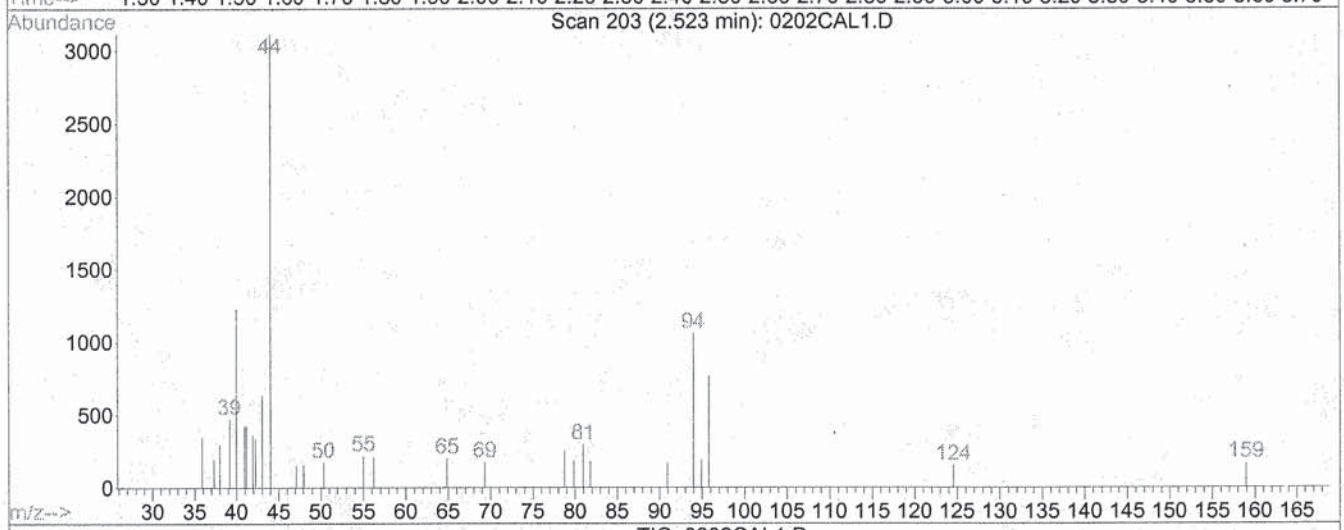
81
1501116

Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL1.D Vial: 3
Acq On : 2 Feb 2015 10:39 am Operator:
Sample : SEQ-CAL1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:27 2015 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:42:32 2015
Response via : Multiple Level Calibration





TIC: 0202CAL1.D

(5) Bromomethane (M)

2.52min 0.90ug/L

response 3570

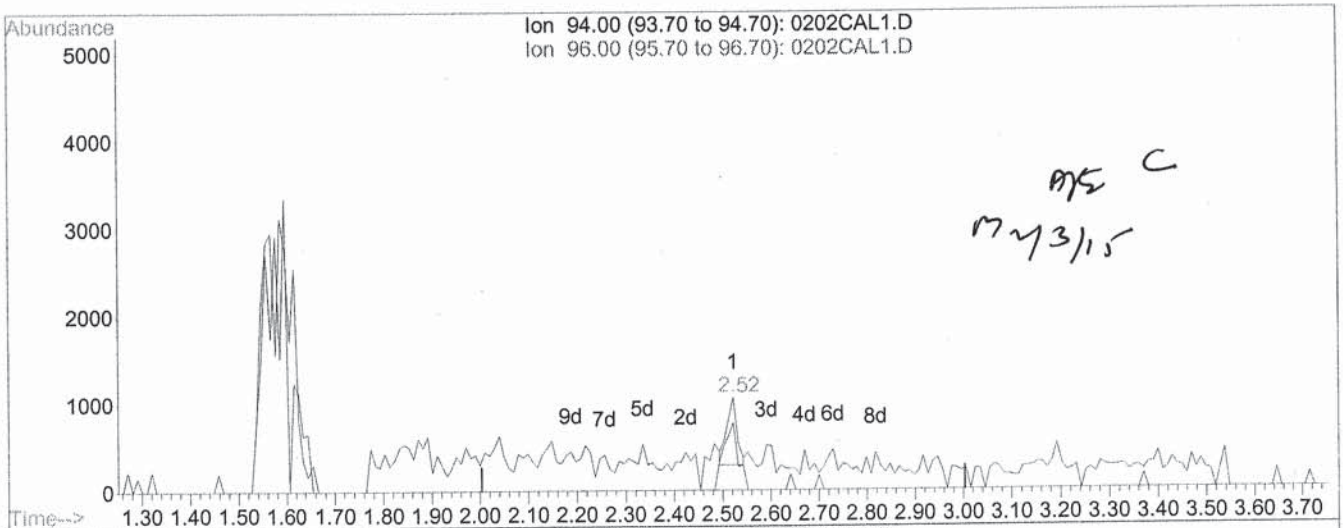
Ion	Exp%	Act%
94.00	100	100
96.00	91.00	45.74#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

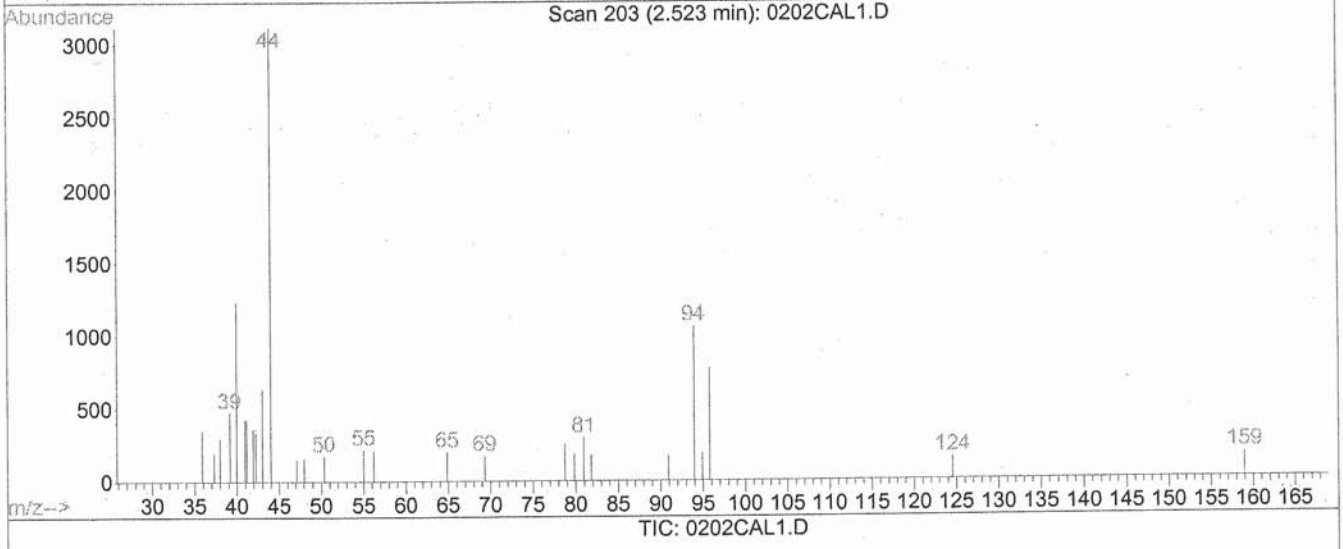
Data File : D:\DATA\020215V6\0202CAL1.D
Acq On : 2 Feb 2015 10:39 am
Sample : SEQ-CAL1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:44 2015

Vial: 3
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:42:32 2015
Response via : Multiple Level Calibration



BTEX C
MW 3/15



TIC: 0202CAL1.D

(5) Bromomethane (M)

2.52min 0.28ug/L m

response 1118

Ion	Exp%	Act%
94.00	100	100
96.00	91.00	146.06#
0.00	0.00	0.00
0.00	0.00	0.00

02/05/15

0202CAL1.D 020215W6.M Tue Feb 03 06:44:43 2015

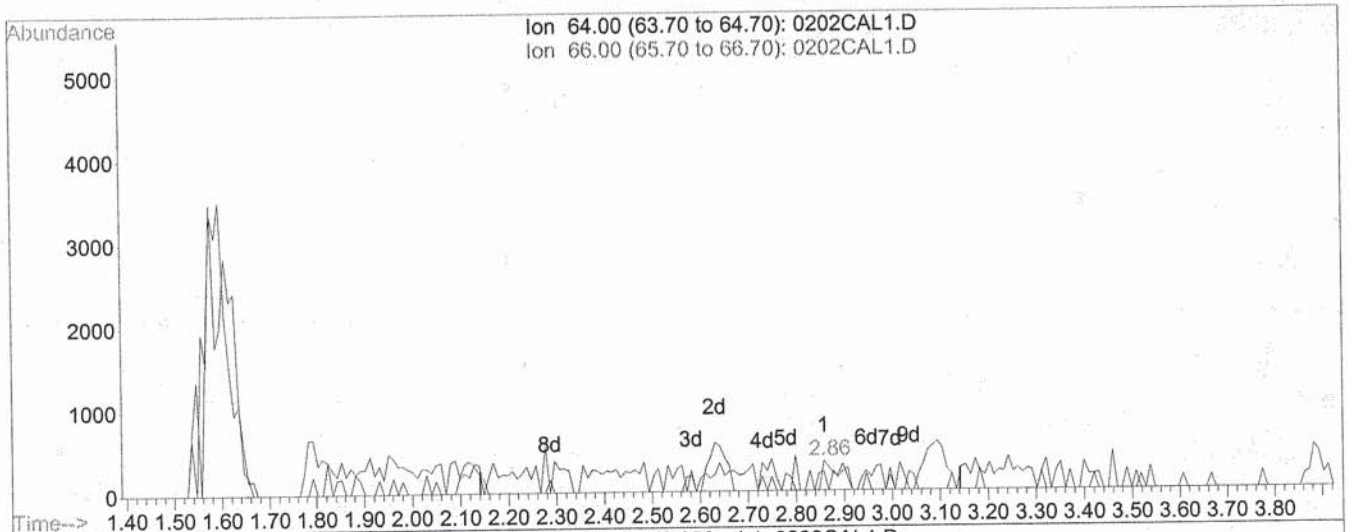
Quantitation Report (Qedit)

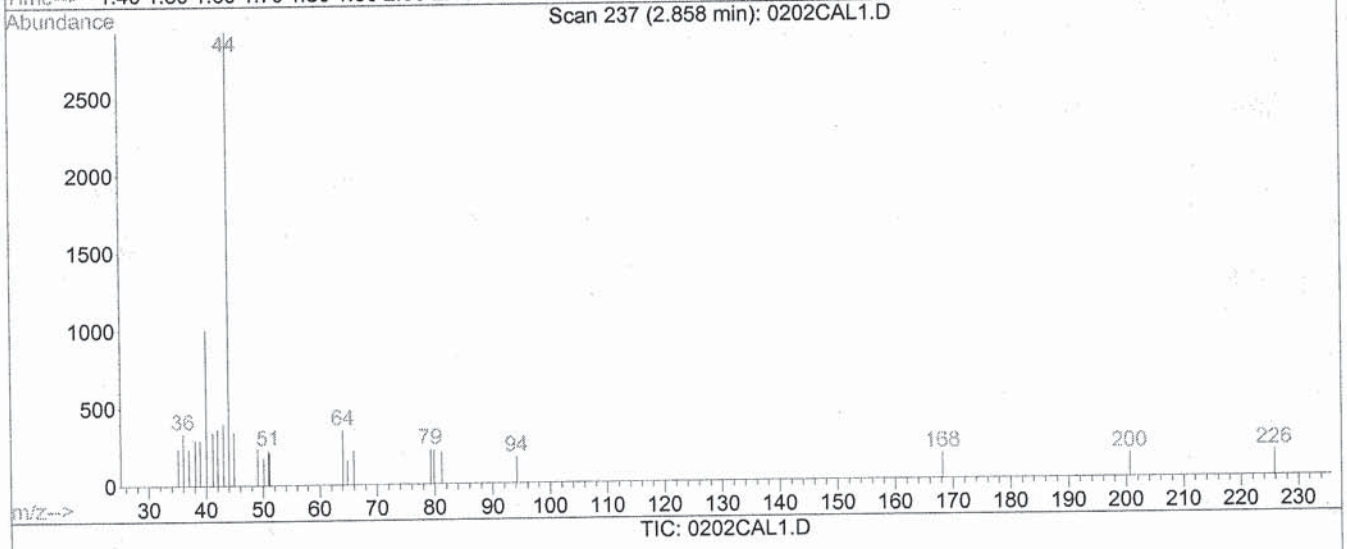
Data File : D:\DATA\020215V6\0202CAL1.D
Acq On : 2 Feb 2015 10:39 am
Sample : SEQ-CAL1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:21 2015

Vial: 3
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:21:31 2015
Response via : Multiple Level Calibration





TIC: 0202CAL1.D

(6) Chloroethane (M)

2.86min 0.33ug/L

response 882

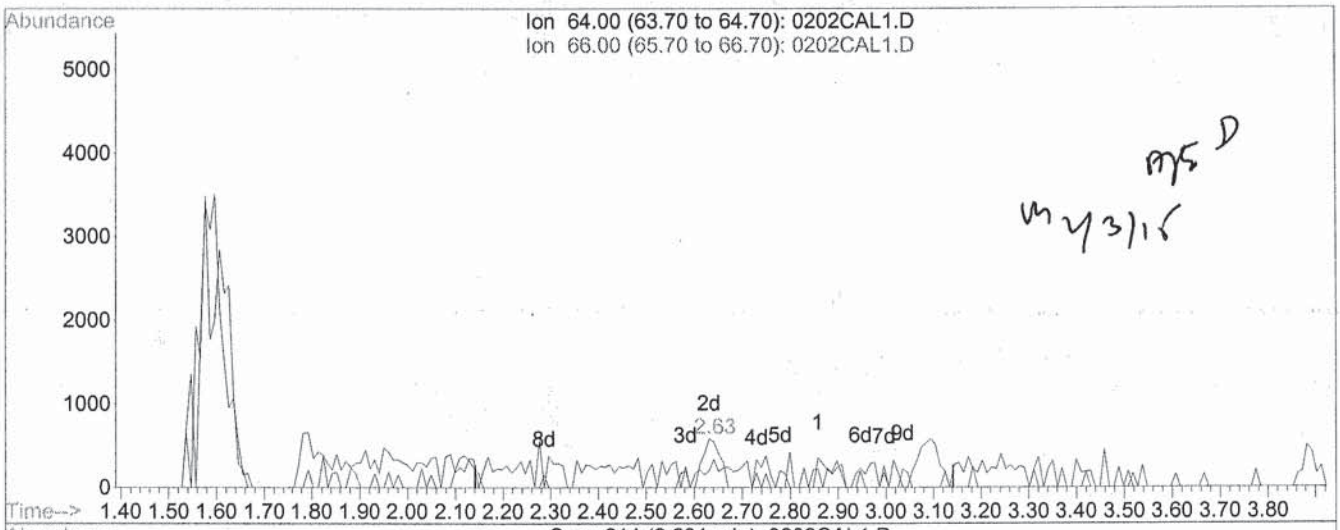
Ion	Exp%	Act%
64.00	100	100
66.00	31.10	28.80
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

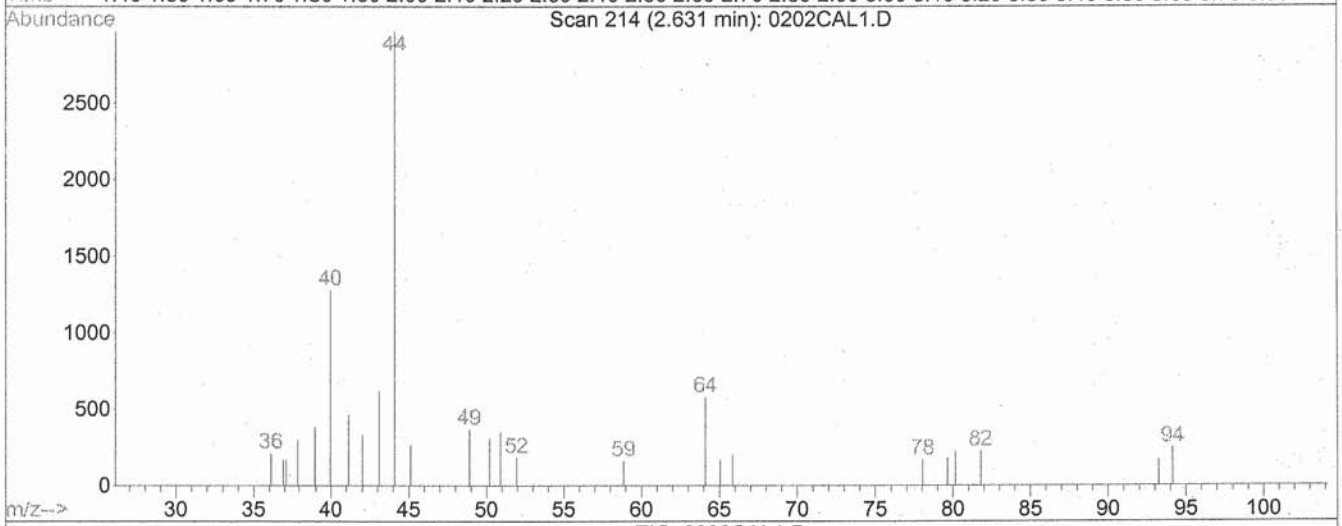
Data File : D:\DATA\020215V6\0202CAL1.D
Acq On : 2 Feb 2015 10:39 am
Sample : SEQ-CAL1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:26 2015

Vial: 3
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:21:31 2015
Response via : Multiple Level Calibration



BJS D
2/3/15



TIC: 0202CAL1.D

(6) Chloroethane (M)

2.63min 0.55ug/L m

response 1478

Ion	Exp%	Act%
64.00	100	100
66.00	31.10	17.19#
0.00	0.00	0.00
0.00	0.00	0.00

02/05/15

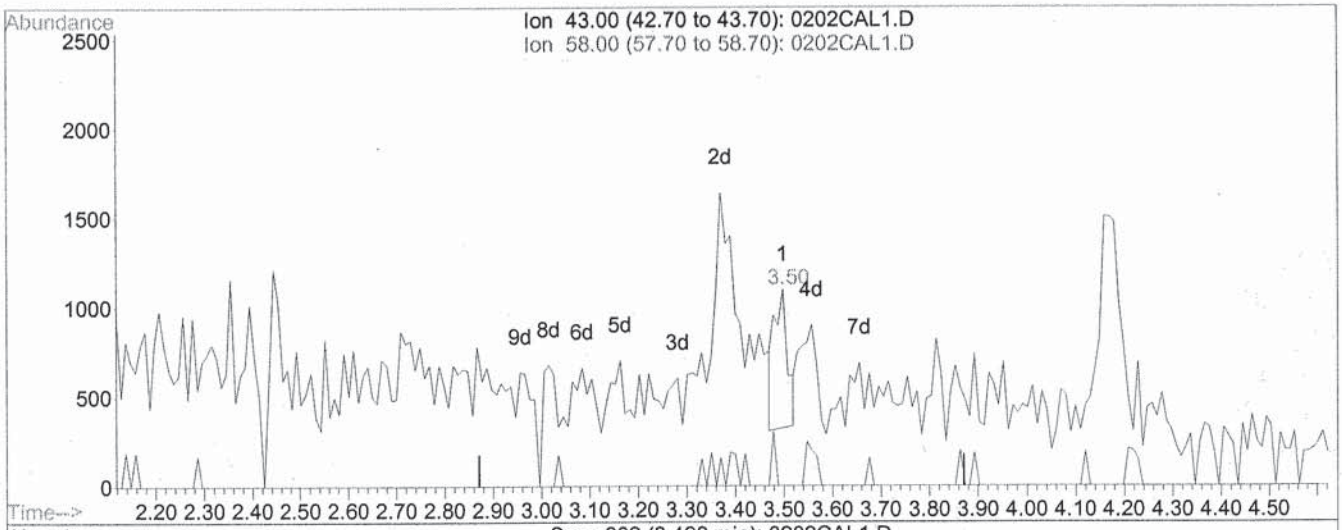
0202CAL1.D 020215W6.M Tue Feb 03 06:26:33 2015

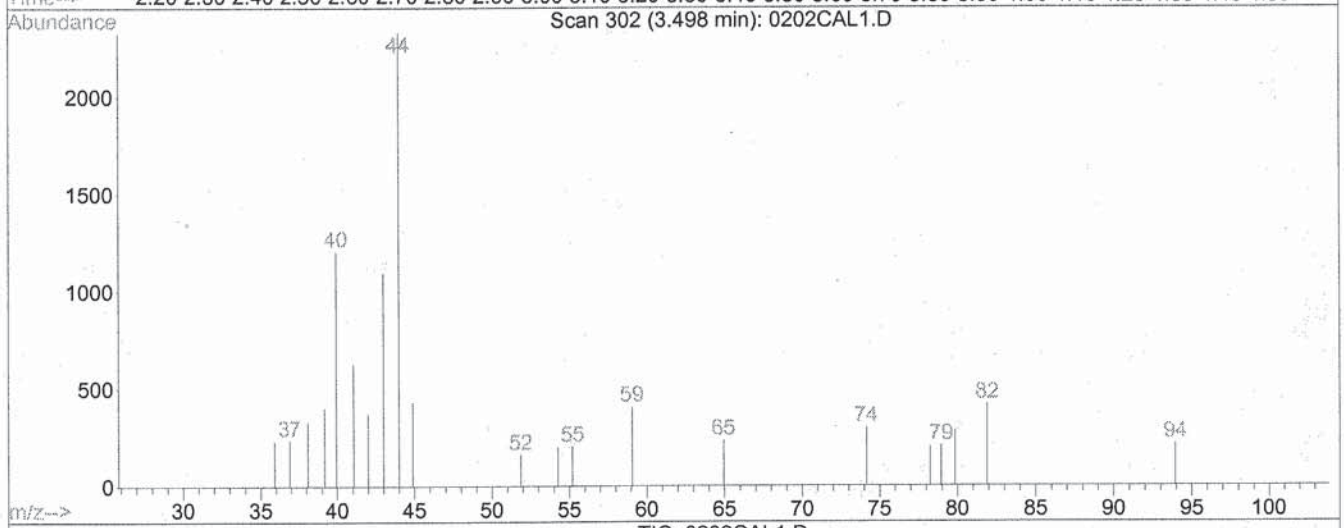
Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL1.D
Acq On : 2 Feb 2015 10:39 am
Sample : SEQ-CAL1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:26 2015

Vial: 3
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:21:31 2015
Response via : Multiple Level Calibration





TIC: 0202CAL1.D

(9) Acetone (M)

3.50min 0.60ug/L

response 1515

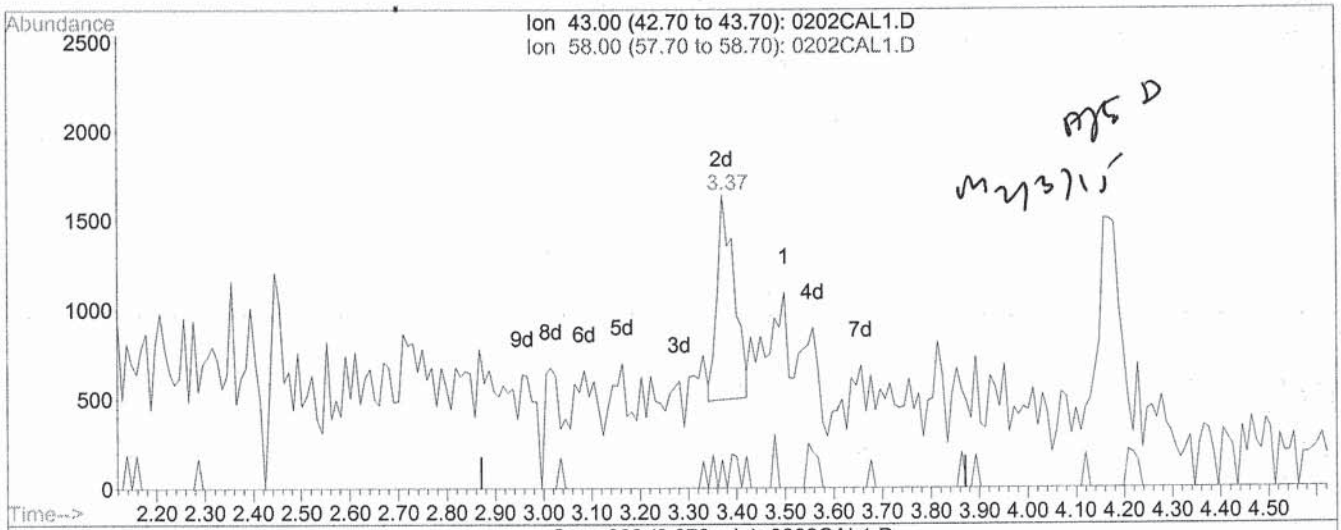
Ion	Exp%	Act%
43.00	100	100
58.00	13.70	11.82
0.00	0.00	0.00
0.00	0.00	0.00

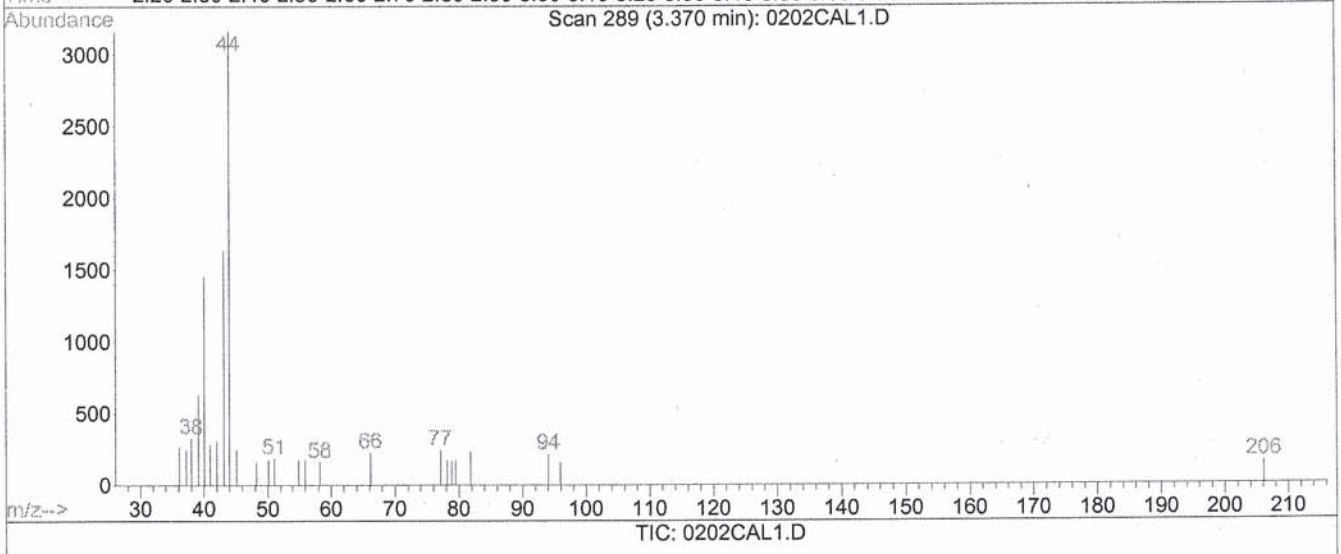
Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL1.D
Acq On : 2 Feb 2015 10:39 am
Sample : SEQ-CAL1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:26 2015

Vial: 3
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:21:31 2015
Response via : Multiple Level Calibration





TIC: 0202CAL1.D

(9) Acetone (M)

3.37min 1.11ug/L m

response 2820

Ion	Exp%	Act%
43.00	100	100
58.00	13.70	6.35#
0.00	0.00	0.00
0.00	0.00	0.00

02/05/15

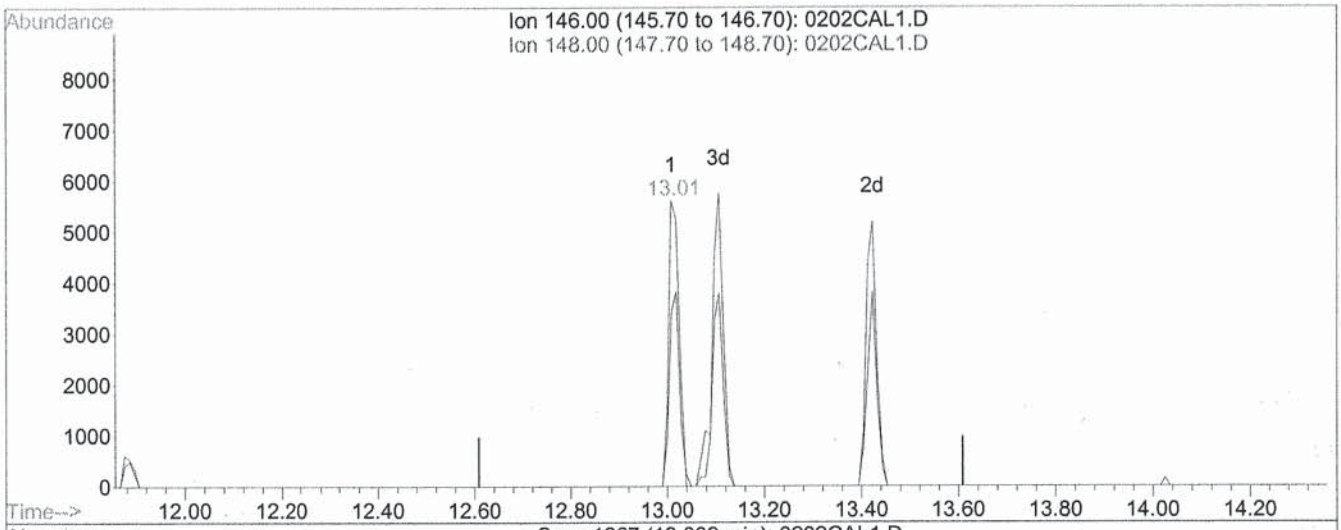
0202CAL1.D 020215W6.M Tue Feb 03 06:26:46 2015

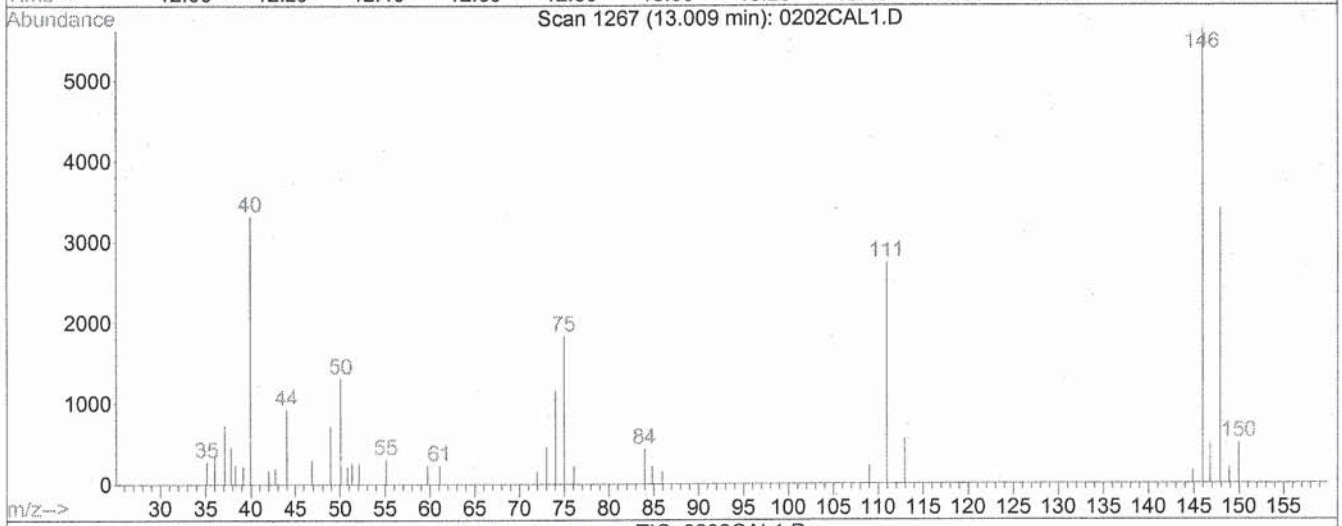
Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL1.D
Acq On : 2 Feb 2015 10:39 am
Sample : SEQ-CAL1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:26 2015

Vial: 3
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:21:31 2015
Response via : Multiple Level Calibration





TIC: 0202CAL1.D

(96) 1,4-Dichlorobenzene (M)

13.01min 0.46ug/L

response 8453

Ion	Exp%	Act%
146.00	100	100
148.00	62.50	67.29
0.00	0.00	0.00
0.00	0.00	0.00

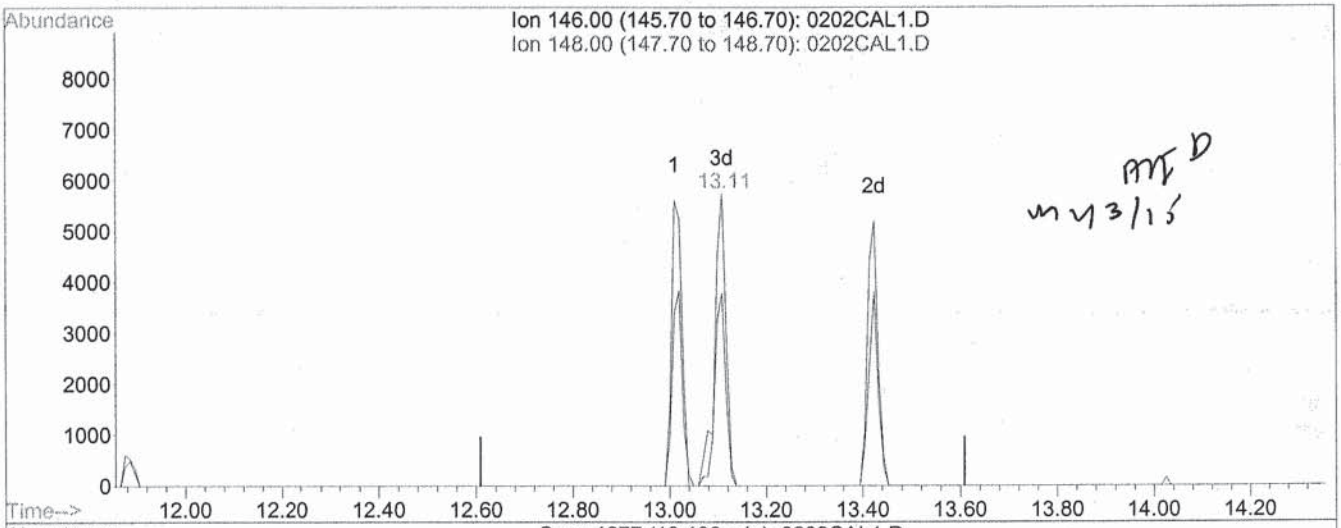
0202CAL1.D 020215W6.M Tue Feb 03 06:27:21 2015

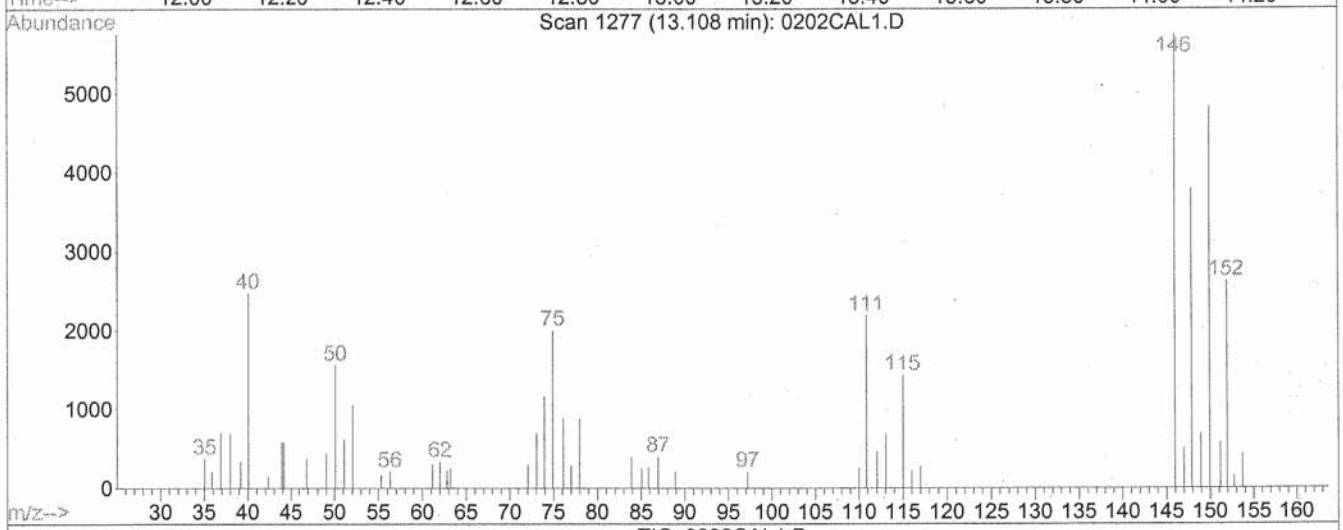
Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL1.D
Acq On : 2 Feb 2015 10:39 am
Sample : SEQ-CAL1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:27 2015

Vial: 3
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:21:31 2015
Response via : Multiple Level Calibration





TIC: 0202CAL1.D

(96) 1,4-Dichlorobenzene (M)

13.11min 0.48ug/L m

response 8681

Ion	Exp%	Act%
146.00	100	100
148.00	62.50	65.52
0.00	0.00	0.00
0.00	0.00	0.00

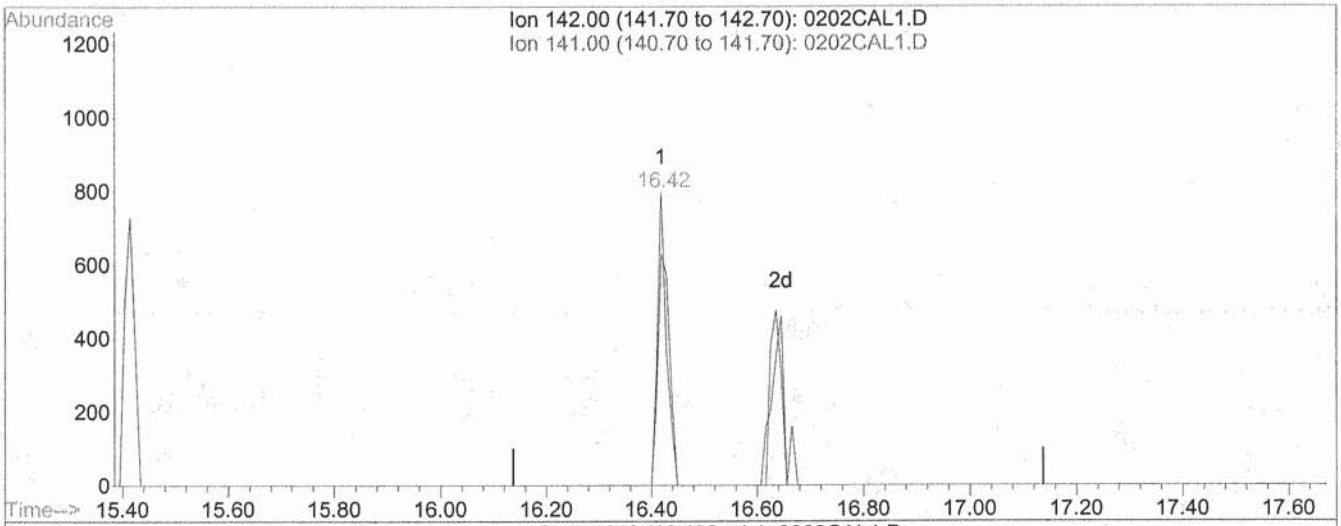
02/05/15

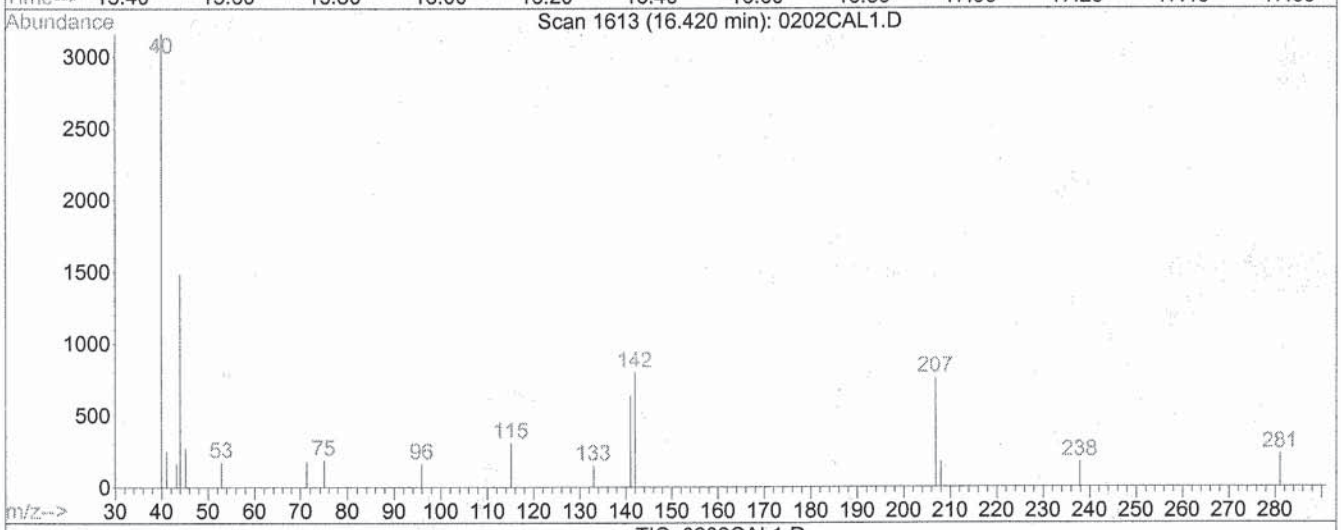
0202CAL1.D 020215W6.M Tue Feb 03 06:27:25 2015

Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL1.D Vial: 3
Acq On : 2 Feb 2015 10:39 am Operator:
Sample : SEQ-CAL1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:27 2015 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:21:31 2015
Response via : Multiple Level Calibration





TIC: 0202CAL1.D

(107) 1-Methylnaphthalene (M)

16.42min 0.12ug/L

response 955

Ion	Exp%	Act%
142.00	100	100
141.00	88.80	102.83
0.00	0.00	0.00
0.00	0.00	0.00

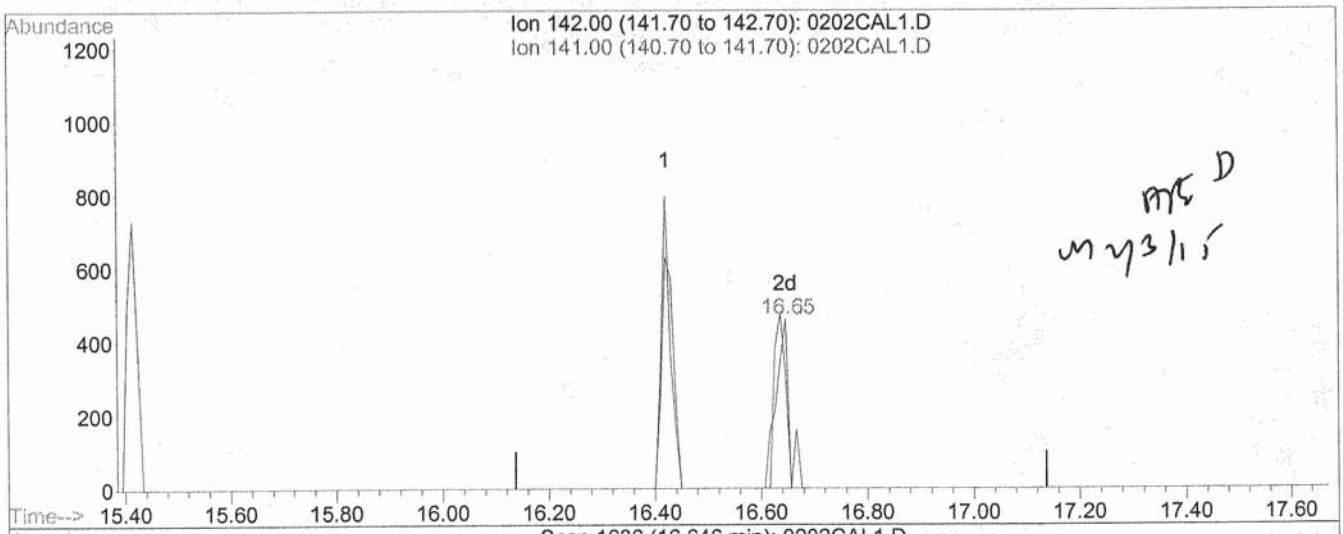
0202CAL1.D 020215W6.M Tue Feb 03 06:27:34 2015

Quantitation Report (Qedit)

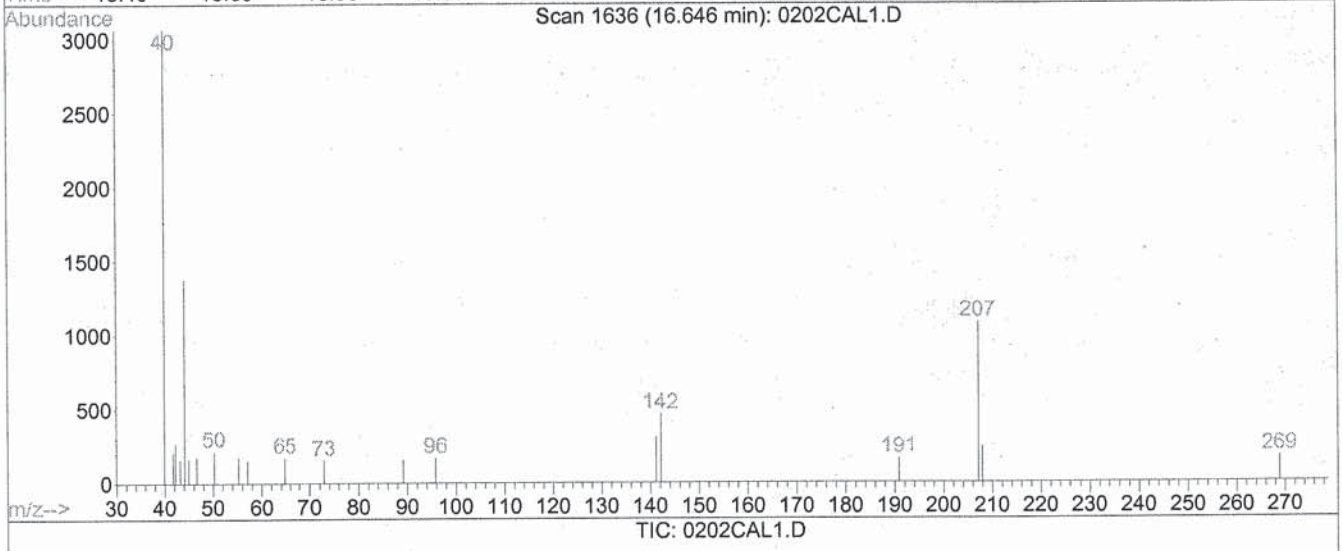
Data File : D:\DATA\020215V6\0202CAL1.D
Acq On : 2 Feb 2015 10:39 am
Sample : SEQ-CAL1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:27 2015

Vial: 3
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:21:31 2015
Response via : Multiple Level Calibration



RTE D
m y 3/15



TIC: 0202CAL1.D

(107) 1-Methylnaphthalene (M)

16.65min 0.09ug/L m

response 697

Ion	Exp%	Act%
142.00	100	100
141.00	88.80	140.89#
0.00	0.00	0.00
0.00	0.00	0.00

02/05/15

0202CAL1.D 020215W6.M Tue Feb 03 06:27:37 2015

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL2.D
Acq On : 2 Feb 2015 11:07 am
Sample : SEQ-CAL2
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:21 2015

Vial: 4
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

02/05/15

Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:20:15 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

mm 3/11

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.57	96	902220	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.69	82	384556	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.08	152	366917	30.00	ug/L	0.00
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	417254	34.85	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 116.17%#			
42) 1,2-Dichloroethane-d4	7.04	102	71096	33.42	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 111.40%			
61) Toluene-d8	9.27	98	962632	34.04	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 113.47%			
82) Bromofluorobenzene	11.89	95	421026	34.30	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 114.33%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.78	85	7446	0.6874	ug/L	98
3) Chloromethane	1.97	50	4781	0.9753	ug/L #	68
4) Vinyl chloride	2.11	62	3128	0.8317	ug/L	91
5) Bromomethane	2.50	94	2922	0.7461	ug/L	99
6) Chloroethane	2.64	64	2432	0.9194	ug/L #	25
7) Trichlorofluoromethane	3.09	101	10931	0.7562	ug/L	87
8) Acrolein	3.26	56	2457	5.0955	ug/L #	75
9) Acetone	3.37	43	5872	2.4174	ug/L #	72
10) Acetonitrile	3.44	41	5013	7.6778	ug/L #	29
11) Ethyl Ether	3.48	59	2686	0.7516	ug/L #	75
12) 1,1-Dichloroethene	3.81	96	6645	0.8231	ug/L	92
13) Trichlorotrifluoroethane	3.87	101	7400	0.8092	ug/L	98
14) Iodomethane	4.00	142	9563	0.6070	ug/L	90
15) t-Butyl Alcohol	3.97	59	1979	2.8867	ug/L #	1
16) Methyl Acetate	4.17	43	6093	0.8117	ug/L	99
17) Acrylonitrile	4.18	53	12353	3.6889	ug/L	97
18) Allyl chloride	4.25	76	3284	0.8258	ug/L #	77
19) Methylene chloride	4.31	84	9063	0.9158	ug/L	95
20) Carbon disulfide	4.34	76	22064	0.7233	ug/L #	88
21) trans-1,2-dichloroethene	4.99	96	7554	0.8787	ug/L	88
22) MTBE	5.00	73	18433	0.8156	ug/L #	86
23) 1,1-Dichloroethane	5.37	63	14236	0.8709	ug/L	98
24) Vinyl acetate	5.46	43	28108	1.3292	ug/L	99
25) Propionitrile	5.56	54	7890	6.5856	ug/L #	82
26) Hexane	5.59	57	5607	0.8933	ug/L	89
27) Chloroprene	5.64	53	11547	0.7431	ug/L #	93
28) Di-isopropyl ether	5.77	45	29925	0.8415	ug/L	95
29) 2-Butanone	5.85	43	6110	1.2137	ug/L	96
30) Methacrylonitrile	6.00	41	51067	8.7172	ug/L	89
31) cis-1,2-Dichloroethene	6.10	96	9032	0.9087	ug/L	96
32) Ethyl Acetate	6.23	43	12636	0.9216	ug/L #	93
33) 2,2-Dichloropropane	6.21	77	10646	0.8041	ug/L	97
34) ETBE	6.24	59	23979	0.8444	ug/L	95
35) Chloroform	6.36	83	17040	0.9443	ug/L	99
36) Bromochloromethane	6.39	128	4757	0.8141	ug/L	87
37) Isobutyl alcohol	6.48	42	2104	13.1590	ug/L	84
39) Tetrahydrofuran	6.57	72	920	1.1399	ug/L	91
40) tert-Amyl alcohol	6.75	59	1233	2.5997	ug/L #	51
41) 1,1,1-Trichloroethane	6.93	97	13198	0.8610	ug/L	97

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

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL2.D Vial: 4
Acq On : 2 Feb 2015 11:07 am Operator:
Sample : SEQ-CAL2 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:21 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:20:15 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 1,2-Dichloroethane	7.14	62	12931	0.8235 ug/L		94
44) 1,1-Dichloropropene	7.15	75	10455	0.8490 ug/L		95
45) Cyclohexane	7.19	56	10775	0.8959 ug/L		96
46) Carbon tetrachloride	7.26	117	10237	0.7337 ug/L		89
47) Benzene	7.29	78	27919	0.9050 ug/L		97
48) tert- Amyl Methyl Ether	7.50	73	17525	0.7782 ug/L	#	90
49) Trichloroethene	8.07	95	8166	0.8073 ug/L		94
50) 1,2-Dichloropropane	8.12	63	7289	0.8569 ug/L		93
51) Dibromomethane	8.23	93	6786	0.8491 ug/L		97
52) Methyl methacrylate	8.27	41	6262	0.6892 ug/L		99
53) 1,4-Dioxane	8.28	88	1058	12.5420 ug/L	#	74
54) Bromodichloromethane	8.29	83	10834	0.8430 ug/L		95
55) tert- Amyl Ethyl Ether	8.40	59	18579	0.7921 ug/L		95
56) Methyl cyclohexane	8.45	83	7821	0.8908 ug/L	#	62
57) 2-Chloroethyl vinyl ether	8.66	63	8178	1.6931 ug/L		92
58) 4-Methyl-2-pentanone	8.80	43	13782	1.4472 ug/L	#	92
59) cis-1,3-Dichloropropene	8.87	75	11074	0.7968 ug/L		98
62) trans-1,3-Dichloropropene	9.35	75	10546	0.8021 ug/L		97
63) Toluene	9.34	92	17396	1.0037 ug/L		90
64) 1,1,2-Trichloroethane	9.50	83	5521	0.8311 ug/L		95
65) Ethyl methacrylate	9.55	69	6919	0.7280 ug/L		97
66) 2-Hexanone	9.66	43	9906	1.5359 ug/L	#	88
67) 1,3-Dichloropropane	9.71	76	11247	0.9092 ug/L		100
68) Dibromochloromethane	9.97	129	8586	0.7287 ug/L		94
69) Tetrachloroethene	10.07	166	8023	0.8083 ug/L		93
70) 1,2-Dibromoethane	10.17	107	8573	0.8785 ug/L		96
71) 1-Chlorohexane	10.70	91	8479	0.9758 ug/L	#	25
72) Chlorobenzene	10.73	112	18907	0.9079 ug/L		96
73) 1,1,1,2-Tetrachloroethane	10.77	131	6778	0.7611 ug/L	#	1
74) Ethylbenzene	10.88	91	30062	0.8690 ug/L		98
75) m,p-Xylene	10.99	91	46531	1.8123 ug/L		94
76) Styrene	11.35	104	18985	0.9072 ug/L		93
77) o-Xylene	11.37	91	24142	0.9221 ug/L		95
78) Bromoform	11.44	173	5513	0.6526 ug/L		99
79) Cyclohexanone	11.49	55	1534	0.9275 ug/L	#	70
80) Isopropylbenzene	11.78	105	25560	0.8379 ug/L		99
81) 1,2,3-Trichloropropane	11.83	110	2675	0.8478 ug/L	#	1
84) cis-1,4-Dichloro-2-butene	11.54	53	2205	0.5511 ug/L		88
85) 1,1,2,2-Tetrachloroethane	11.70	83	8540	0.8467 ug/L		95
86) trans-1,4-Dichloro-2-buten	11.85	53	1858	0.4996 ug/L	#	1
87) Bromobenzene	12.03	156	8725	0.8123 ug/L		98
88) n-Propylbenzene	12.18	91	29298	0.8276 ug/L		95
89) 2-Chlorotoluene	12.26	91	19157	0.8233 ug/L		98
90) 4-Chlorotoluene	12.32	91	24103	0.8617 ug/L		99
91) 1,3,5-Trimethylbenzene	12.36	105	20628	0.8113 ug/L		98
92) tert-Butylbenzene	12.70	119	17583	0.8197 ug/L		96
93) 1,2,4-Trimethylbenzene	12.72	105	21445	0.7970 ug/L		91
94) sec-Butylbenzene	12.93	105	21429	0.7932 ug/L		95
95) 1,3-Dichlorobenzene	13.01	146	15521	0.9044 ug/L		94
96) 1,4-Dichlorobenzene	13.11	146	15096	0.8509 ug/L		91
97) p-Isopropyltoluene	13.07	119	17845	0.8182 ug/L	#	86
98) 1,2-Dichlorobenzene	13.42	146	13935	0.8270 ug/L		100
99) n-Butylbenzene	13.47	91	17025	0.8281 ug/L		97

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

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL2.D Vial: 4
Acq On : 2 Feb 2015 11:07 am Operator:
Sample : SEQ-CAL2 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:21 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:20:15 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

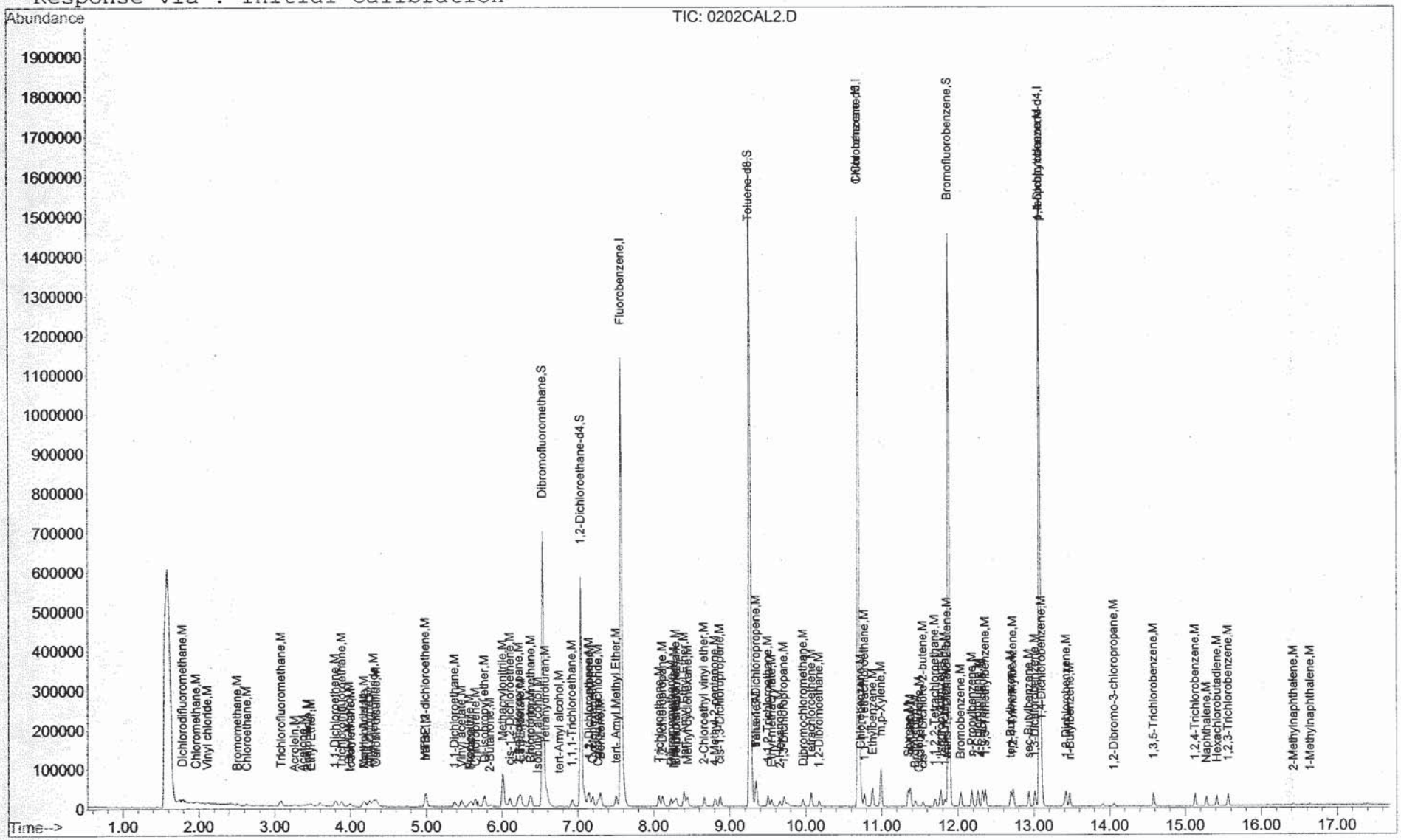
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
100)	1,2-Dibromo-3-chloropropan	14.07	157	1495	0.6736 ug/L	91
101)	1,3,5-Trichlorobenzene	14.58	180	10023	0.8276 ug/L	98
102)	1,2,4-Trichlorobenzene	15.13	180	8887	0.7861 ug/L	96
103)	Naphthalene	15.28	128	16286	0.6924 ug/L	100
104)	Hexachlorobutadiene	15.42	225	4727	0.8733 ug/L	88
105)	1,2,3-Trichlorobenzene	15.56	180	7931	0.7878 ug/L	99
106)	2-Methylnaphthalene	16.42	142	1622	0.1792 ug/L	93
107)	1-Methylnaphthalene	16.64	142	1530m	0.2087 ug/L	

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

Quantitation Report

Data File : D:\DATA\020215V6\0202CAL2.D Vial: 4
Acq On : 2 Feb 2015 11:07 am Operator:
Sample : SEQ-CAL2 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:21 2015 Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:20:15 2015
Response via : Initial Calibration

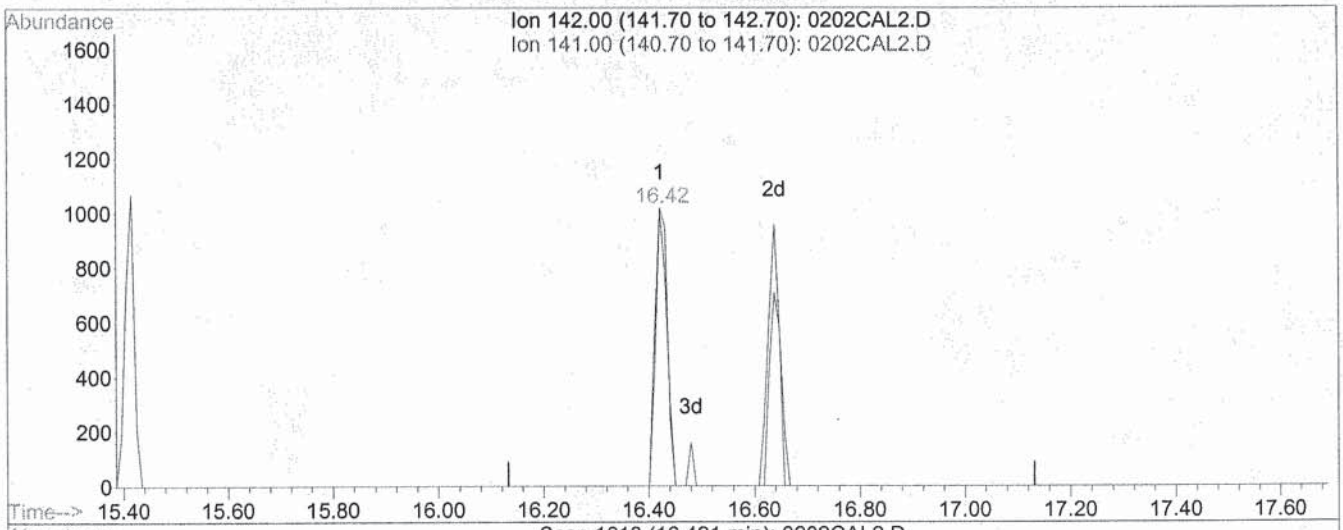


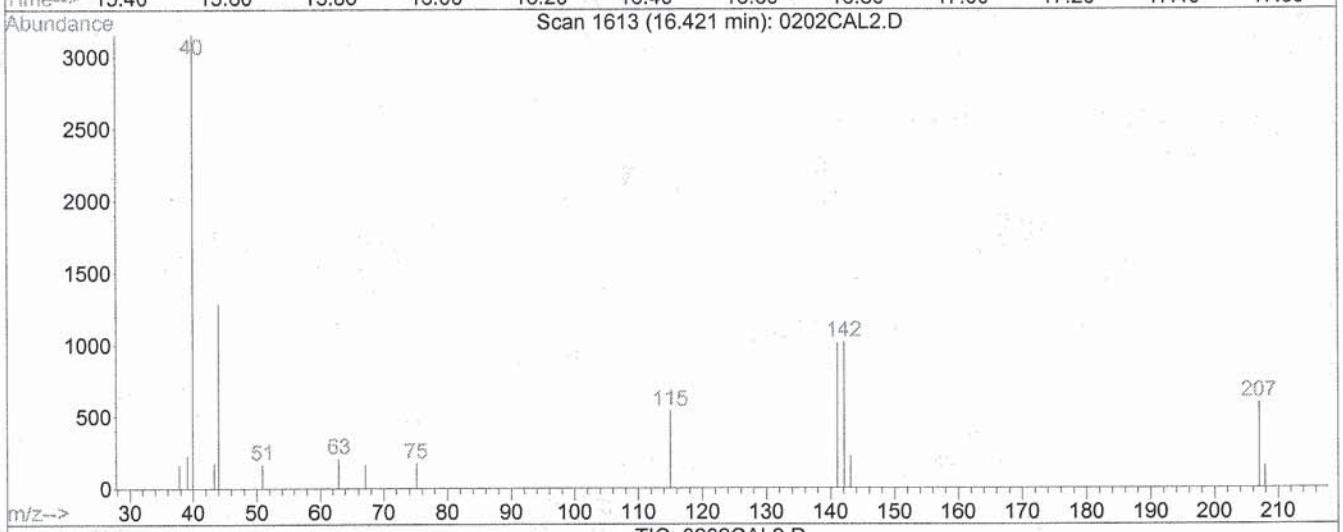
Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL2.D
Acq On : 2 Feb 2015 11:07 am
Sample : SEQ-CAL2
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:20 2015

Vial: 4
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:20:15 2015
Response via : Multiple Level Calibration





TIC: 0202CAL2.D

(107) 1-Methylnaphthalene (M)

16.42min 0.22ug/L

response 1622

Ion	Exp%	Act%
142.00	100	100
141.00	88.80	90.63
0.00	0.00	0.00
0.00	0.00	0.00

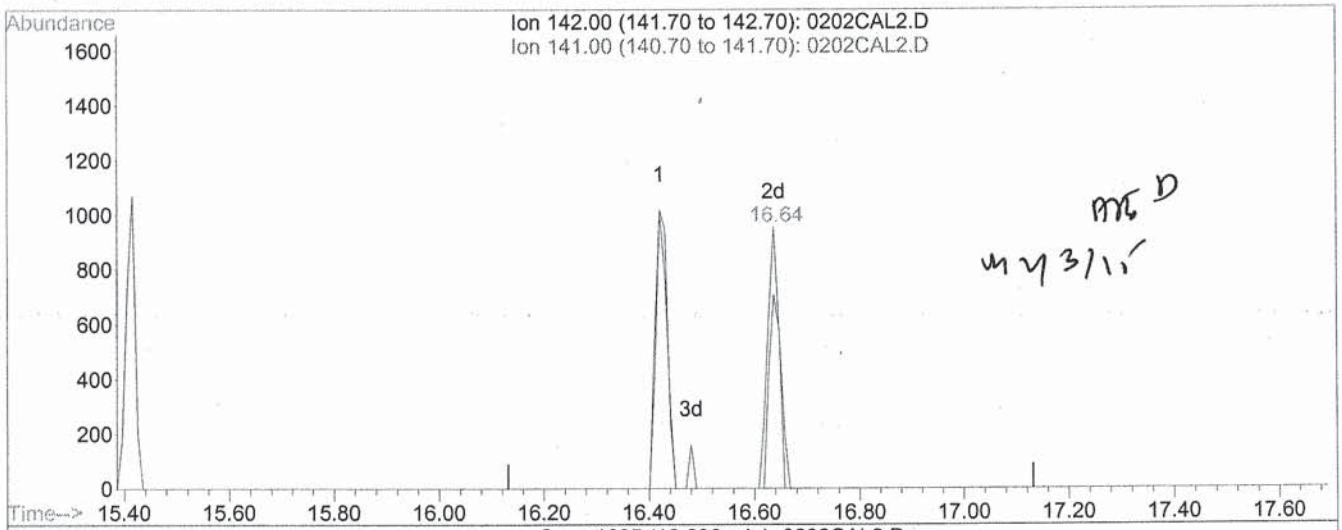
0202CAL2.D 020215W6.M Tue Feb 03 06:21:11 2015

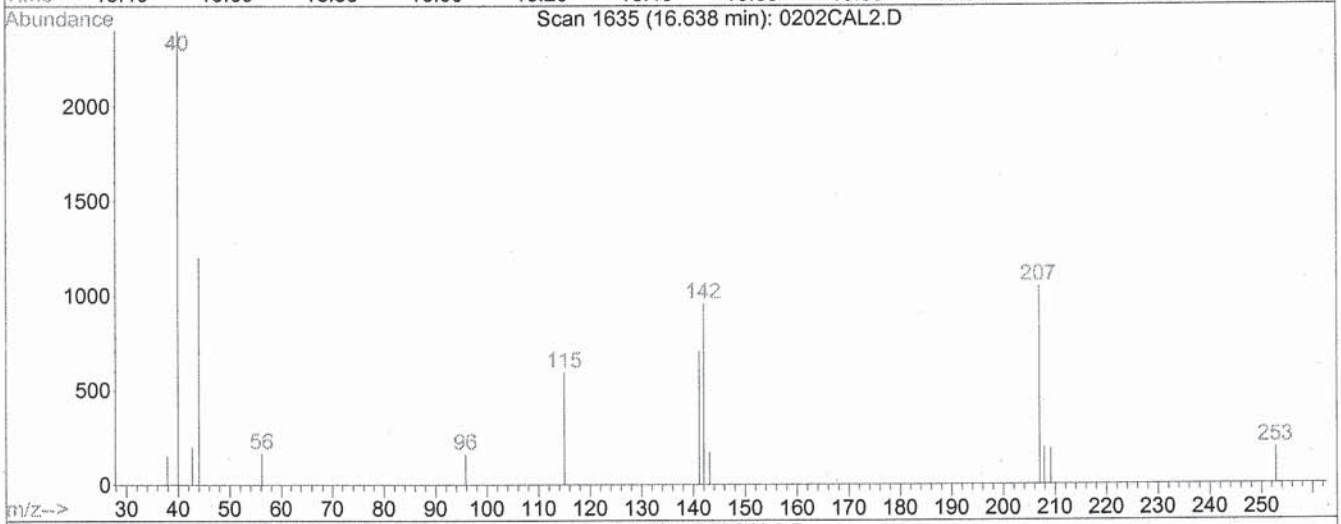
Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL2.D
Acq On : 2 Feb 2015 11:07 am
Sample : SEQ-CAL2
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:21 2015

Vial: 4
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:20:15 2015
Response via : Multiple Level Calibration





TIC: 0202CAL2.D

(107) 1-Methylnaphthalene (M)

16.64min 0.21ug/L m

response 1530

Ion	Exp%	Act%
142.00	100	100
141.00	88.80	96.08
0.00	0.00	0.00
0.00	0.00	0.00

02/05/15

0202CAL2.D 020215W6.M Tue Feb 03 06:21:14 2015

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL3.D
Acq On : 2 Feb 2015 11:34 am
Sample : SEQ-CAL3
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:50 2015

Vial: 5
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

02/05/15

Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:18:38 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.58	96	874855	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.69	82	373114	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.07	152	357372	30.00	ug/L	0.00
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	467244	40.55	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 135.17%#			
42) 1,2-Dichloroethane-d4	7.04	102	82410	40.08	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 133.60%#			
61) Toluene-d8	9.27	98	1079125	39.32	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 131.07%#			
82) Bromofluorobenzene	11.88	95	460863	38.72	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 129.07%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.78	85	16740	1.6306	ug/L	100
3) Chloromethane	1.98	50	7940	1.6851	ug/L #	74
4) Vinyl chloride	2.12	62	6538	1.8258	ug/L	96
5) Bromomethane	2.51	94	6681	1.7862	ug/L	92
6) Chloroethane	2.64	64	5415m	2.1063	ug/L	
7) Trichlorofluoromethane	3.09	101	27036m	1.9839	ug/L	
8) Acrolein	3.27	56	4703m	10.0415	ug/L	
9) Acetone	3.38	43	7964	3.3847	ug/L #	90
10) Acetonitrile	3.44	41	11518m	17.9226	ug/L	
11) Ethyl Ether	3.48	59	5208	1.2720	ug/L #	86
12) 1,1-Dichloroethene	3.81	96	15142	1.9338	ug/L	89
13) Trichlorotrifluoroethane	3.89	101	15925	1.7982	ug/L	97
14) Iodomethane	4.00	142	21999	1.4441	ug/L	99
15) t-Butyl Alcohol	3.96	59	3983	5.6885	ug/L #	71
16) Methyl Acetate	4.17	43	15001	2.0258	ug/L	93
17) Acrylonitrile	4.17	53	27925	8.3172	ug/L	93
18) Allyl chloride	4.25	76	7662	1.9609	ug/L #	81
19) Methylene chloride	4.30	84	18903	1.9267	ug/L	98
20) Carbon disulfide	4.34	76	55775	1.8935	ug/L	99
21) trans-1,2-dichloroethene	4.99	96	15914	1.8863	ug/L	91
22) MTBE	4.99	73	39239	1.7789	ug/L	92
23) 1,1-Dichloroethane	5.38	63	30254	1.8980	ug/L	96
24) Vinyl acetate	5.47	43	58341	2.7207	ug/L	98
25) Propionitrile	5.56	54	20231	17.0852	ug/L #	90
26) Hexane	5.59	57	11567	1.8701	ug/L	93
27) Chloroprene	5.64	53	29799	2.0093	ug/L	91
28) Di-isopropyl ether	5.77	45	64033	1.8170	ug/L	99
29) 2-Butanone	5.84	43	14035	2.7396	ug/L #	87
30) Methacrylonitrile	6.01	41	112235	19.2515	ug/L #	85
31) cis-1,2-Dichloroethene	6.11	96	18697	1.9150	ug/L	92
32) Ethyl Acetate	6.22	43	24643	1.8574	ug/L	98
33) 2,2-Dichloropropane	6.22	77	24736	1.9317	ug/L	98
34) ETBE	6.24	59	52670	1.8865	ug/L	96
35) Chloroform	6.36	83	34211	1.9546	ug/L	96
36) Bromochloromethane	6.38	128	10794	1.8765	ug/L	96
37) Isobutyl alcohol	6.47	42	3730	21.8199	ug/L	89
39) Tetrahydrofuran	6.58	72	1132	1.3556	ug/L #	3
40) tert-Amyl alcohol	6.76	59	2183	4.3806	ug/L #	1
41) 1,1,1-Trichloroethane	6.92	97	27162	1.8376	ug/L	99

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

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL3.D Vial: 5
Acq On : 2 Feb 2015 11:34 am Operator:
Sample : SEQ-CAL3 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:50 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:18:38 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	1,2-Dichloroethane	7.13	62	27878	1.8490 ug/L		97
44)	1,1-Dichloropropene	7.15	75	23209	1.9363 ug/L		97
45)	Cyclohexane	7.19	56	22496	1.9178 ug/L		94
46)	Carbon tetrachloride	7.27	117	21689	1.6052 ug/L		96
47)	Benzene	7.30	78	58968	1.9601 ug/L		99
48)	tert- Amyl Methyl Ether	7.50	73	39856	1.8035 ug/L		97
49)	Trichloroethene	8.07	95	17964	1.8291 ug/L		99
50)	1,2-Dichloropropane	8.12	63	16523	1.9806 ug/L		94
51)	Dibromomethane	8.24	93	14969	1.9536 ug/L		96
52)	Methyl methacrylate	8.27	41	14773	1.6412 ug/L		99
53)	1,4-Dioxane	8.28	88	3259	39.9894 ug/L	#	82
54)	Bromodichloromethane	8.29	83	22190	1.7811 ug/L		99
55)	tert- Amyl Ethyl Ether	8.39	59	39650	1.7012 ug/L		95
56)	Methyl cyclohexane	8.44	83	17184	2.0218 ug/L		98
57)	2-Chloroethyl vinyl ether	8.67	63	18681	4.0643 ug/L		99
58)	4-Methyl-2-pentanone	8.81	43	29207	3.0292 ug/L	#	89
59)	cis-1,3-Dichloropropene	8.88	75	23825	1.7206 ug/L		90
62)	trans-1,3-Dichloropropene	9.35	75	21759	1.6694 ug/L		95
63)	Toluene	9.35	92	34584	2.0329 ug/L		99
64)	1,1,2-Trichloroethane	9.51	83	12234	1.8780 ug/L		97
65)	Ethyl methacrylate	9.55	69	14309	1.4877 ug/L		96
66)	2-Hexanone	9.65	43	21633	3.3542 ug/L	#	94
67)	1,3-Dichloropropane	9.71	76	23477	1.9288 ug/L		93
68)	Dibromochloromethane	9.96	129	18902	1.6395 ug/L		97
69)	Tetrachloroethene	10.08	166	18180	1.8623 ug/L		98
70)	1,2-Dibromoethane	10.18	107	17106	1.7931 ug/L		96
71)	1-Chlorohexane	10.71	91	18239	2.1461 ug/L	#	72
72)	Chlorobenzene	10.73	112	40717	1.9928 ug/L	#	86
73)	1,1,1,2-Tetrachloroethane	10.78	131	14434	1.6409 ug/L	#	92
74)	Ethylbenzene	10.88	91	64644	1.9228 ug/L		96
75)	m,p-Xylene	11.00	91	96288	3.8315 ug/L		91
76)	Styrene	11.35	104	39137	1.8975 ug/L		96
77)	o-Xylene	11.38	91	50399	1.9702 ug/L		90
78)	Bromoform	11.45	173	13596	1.6641 ug/L		95
79)	Cyclohexanone	11.50	55	2632	1.2613 ug/L	#	81
80)	Isopropylbenzene	11.77	105	57172	1.9189 ug/L		99
81)	1,2,3-Trichloropropane	11.83	110	5079	1.6451 ug/L	#	50
84)	cis-1,4-Dichloro-2-butene	11.55	53	5341	1.3471 ug/L		90
85)	1,1,2,2-Tetrachloroethane	11.70	83	18021	1.8284 ug/L		98
86)	trans-1,4-Dichloro-2-buten	11.85	53	5255	1.4446 ug/L	#	1
87)	Bromobenzene	12.04	156	18372	1.7378 ug/L		99
88)	n-Propylbenzene	12.18	91	61715	1.7875 ug/L		96
89)	2-Chlorotoluene	12.26	91	41562	1.8283 ug/L		94
90)	4-Chlorotoluene	12.33	91	50403	1.8566 ug/L		98
91)	1,3,5-Trimethylbenzene	12.37	105	45042	1.8179 ug/L		95
92)	tert-Butylbenzene	12.70	119	37497	1.7901 ug/L		96
93)	1,2,4-Trimethylbenzene	12.73	105	49415	1.8941 ug/L		97
94)	sec-Butylbenzene	12.94	105	47756	1.8141 ug/L		95
95)	1,3-Dichlorobenzene	13.02	146	31630	1.8887 ug/L		99
96)	1,4-Dichlorobenzene	13.10	146	32352	1.8595 ug/L		98
97)	p-Isopropyltoluene	13.07	119	37478	1.7625 ug/L		95
98)	1,2-Dichlorobenzene	13.42	146	29173	1.7673 ug/L		92
99)	n-Butylbenzene	13.47	91	36792	1.8412 ug/L		100

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

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL3.D
Acq On : 2 Feb 2015 11:34 am
Sample : SEQ-CAL3
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:50 2015

Vial: 5
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:18:38 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

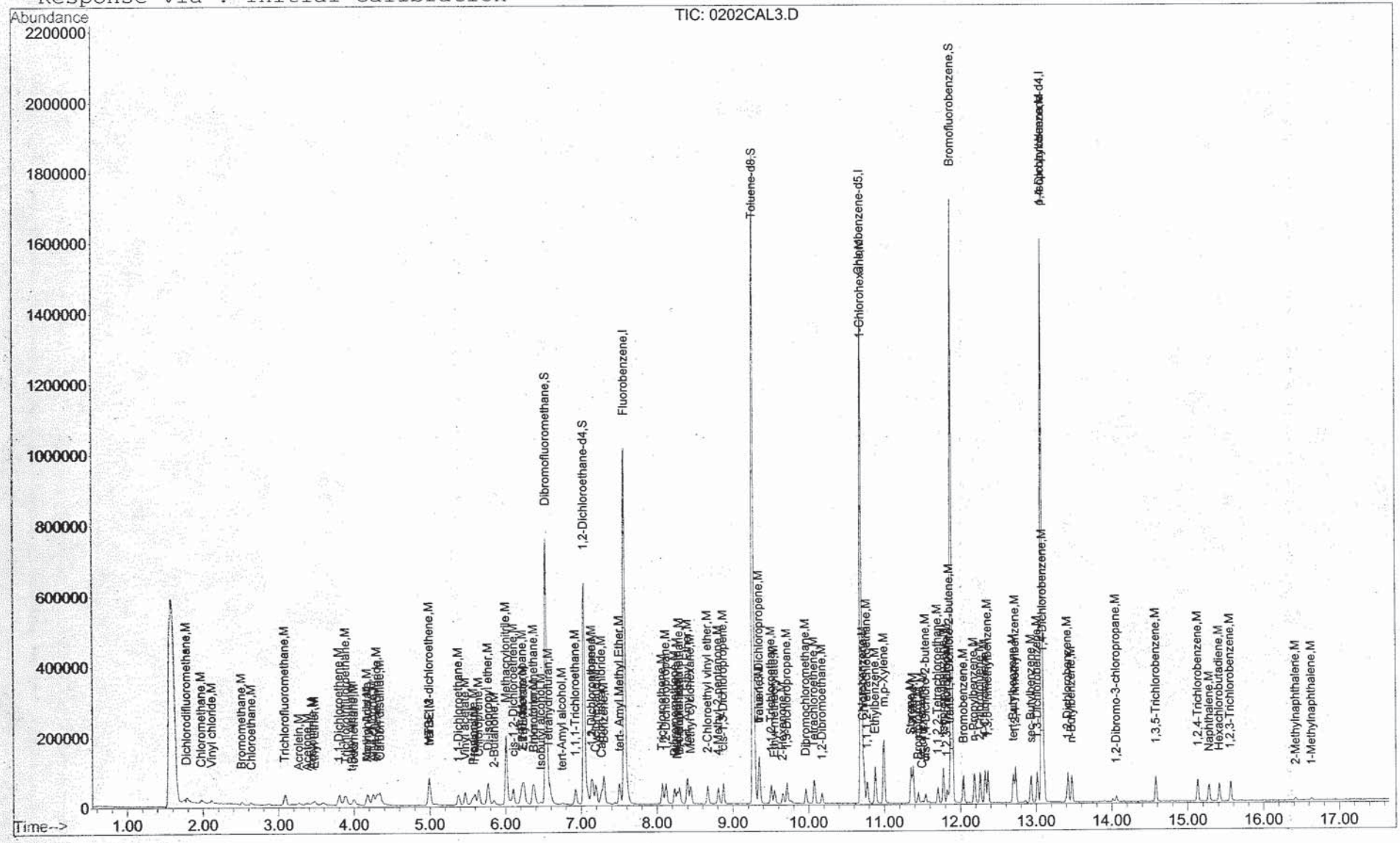
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
100) 1,2-Dibromo-3-chloropropan	14.06	157	3129	1.4228 ug/L	98
101) 1,3,5-Trichlorobenzene	14.58	180	21972	1.8623 ug/L	96
102) 1,2,4-Trichlorobenzene	15.13	180	18635	1.6821 ug/L	98
103) Naphthalene	15.28	128	35910	1.5508 ug/L	100
104) Hexachlorobutadiene	15.41	225	8843	1.6768 ug/L	96
105) 1,2,3-Trichlorobenzene	15.57	180	16830	1.7070 ug/L	97
106) 2-Methylnaphthalene	16.43	142	3231	0.3617 ug/L	95
107) 1-Methylnaphthalene	16.63	142	2440	0.3368 ug/L	87

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

Data File : D:\DATA\020215V6\0202CAL3.D
Acq On : 2 Feb 2015 11:34 am
Sample : SEQ-CAL3
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:50 2015

Vial: 5
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:48:19 2015
Response via : Initial Calibration

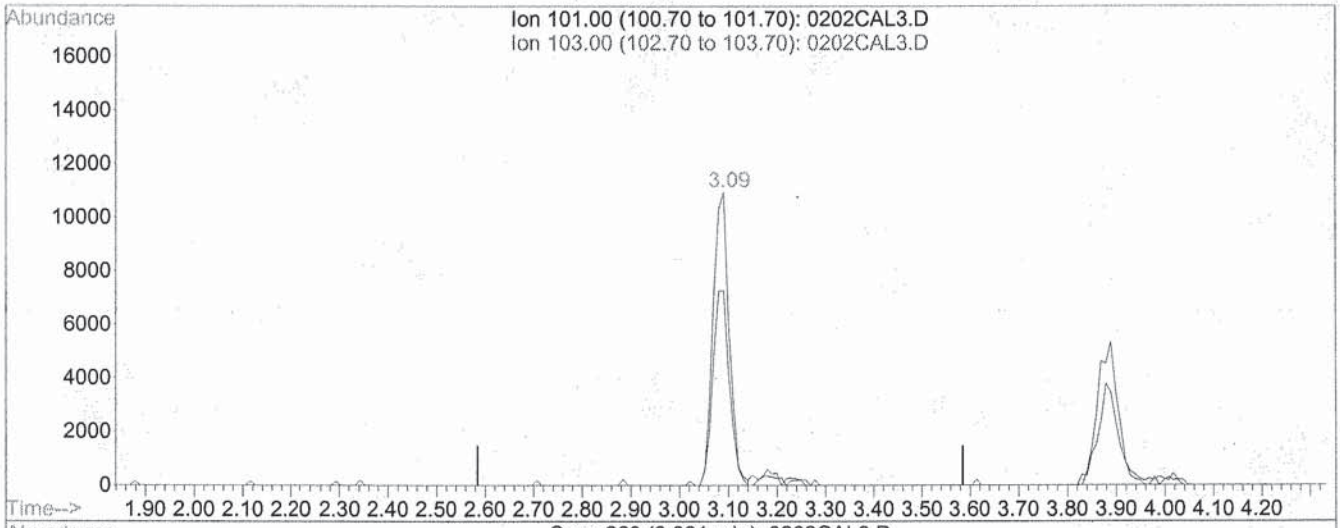


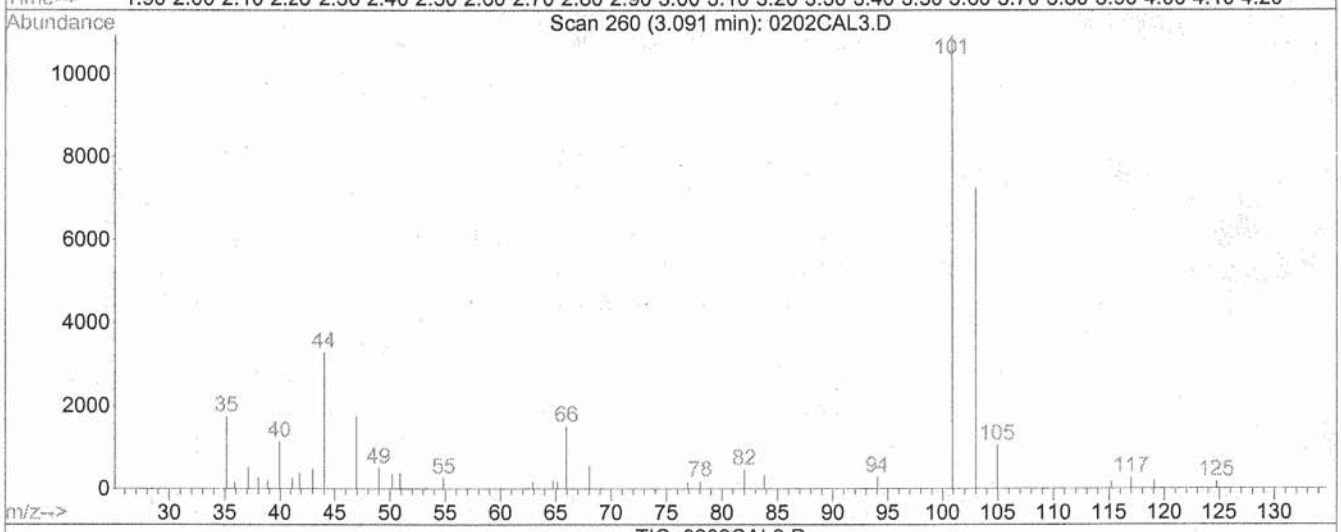
101
1501116

Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL3.D Vial: 5
Acq On : 2 Feb 2015 11:34 am Operator:
Sample : SEQ-CAL3 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:19 2015 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:42:32 2015
Response via : Multiple Level Calibration





TIC: 0202CAL3.D

(7) Trichlorofluoromethane (M)

3.09min 1.83ug/L

response 24948

Ion	Exp%	Act%
101.00	100	100
103.00	66.20	68.88
0.00	0.00	0.00
0.00	0.00	0.00

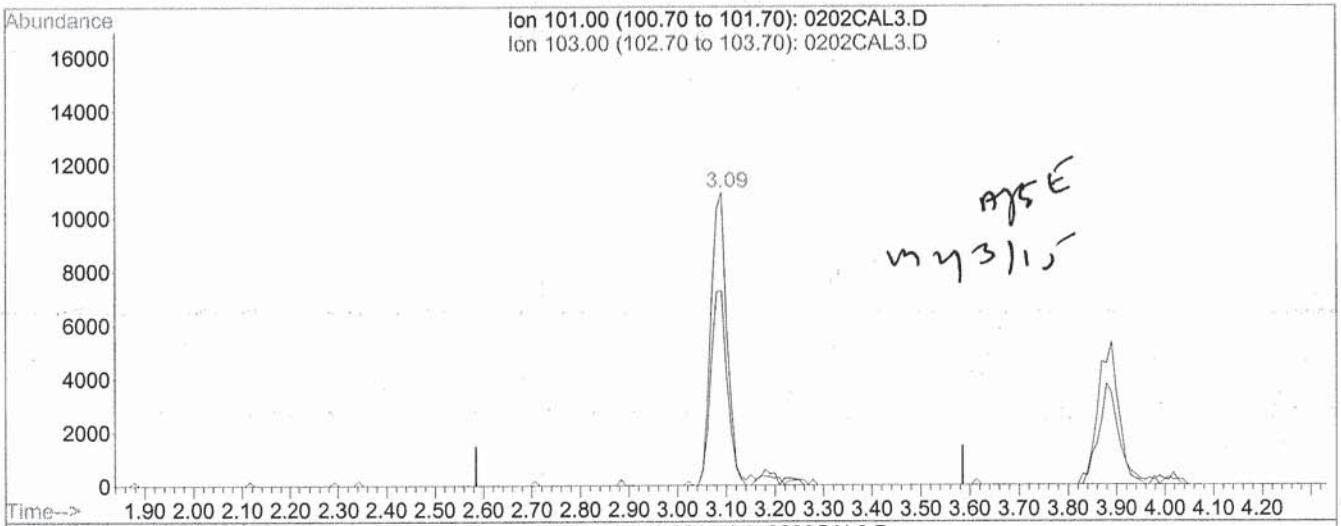
0202CAL3.D 020215W6.M Tue Feb 03 06:50:35 2015

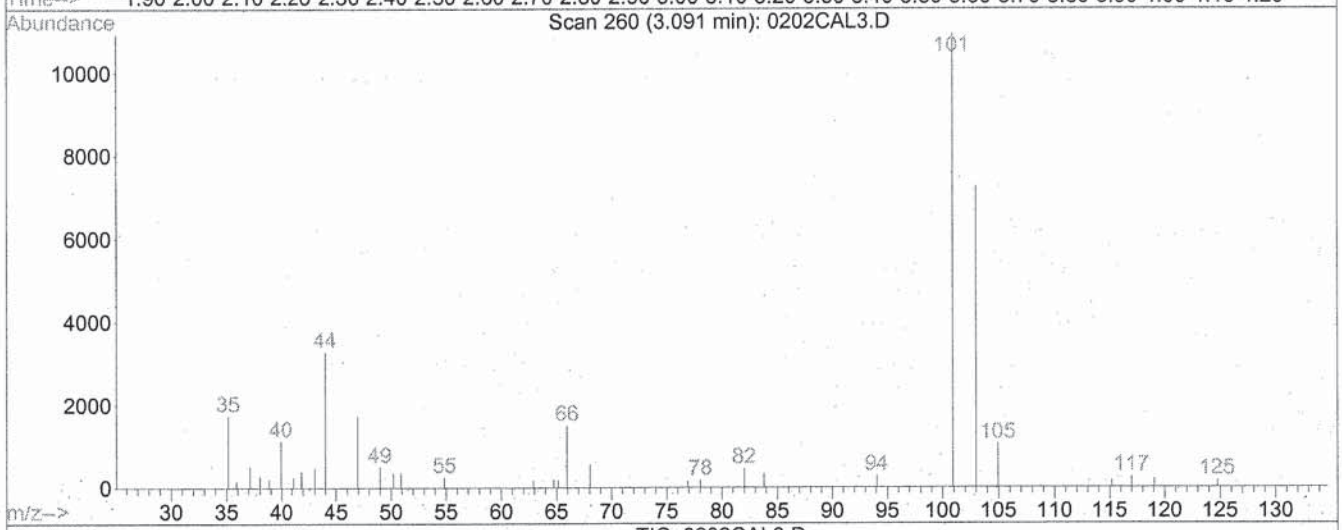
Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL3.D
Acq On : 2 Feb 2015 11:34 am
Sample : SEQ-CAL3
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:50 2015

Vial: 5
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:42:32 2015
Response via : Multiple Level Calibration





TIC: 0202CAL3.D

(7) Trichlorofluoromethane (M)

3.09min 1.98ug/L m

response 27036

Ion	Exp%	Act%
101.00	100	100
103.00	66.20	63.56
0.00	0.00	0.00
0.00	0.00	0.00

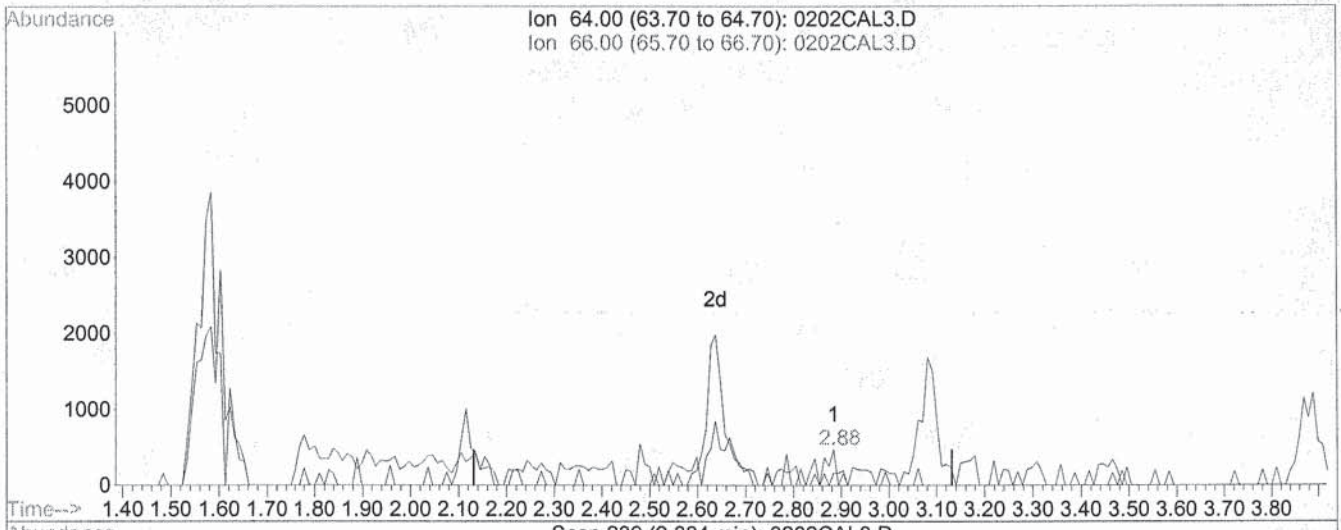
02/05/15

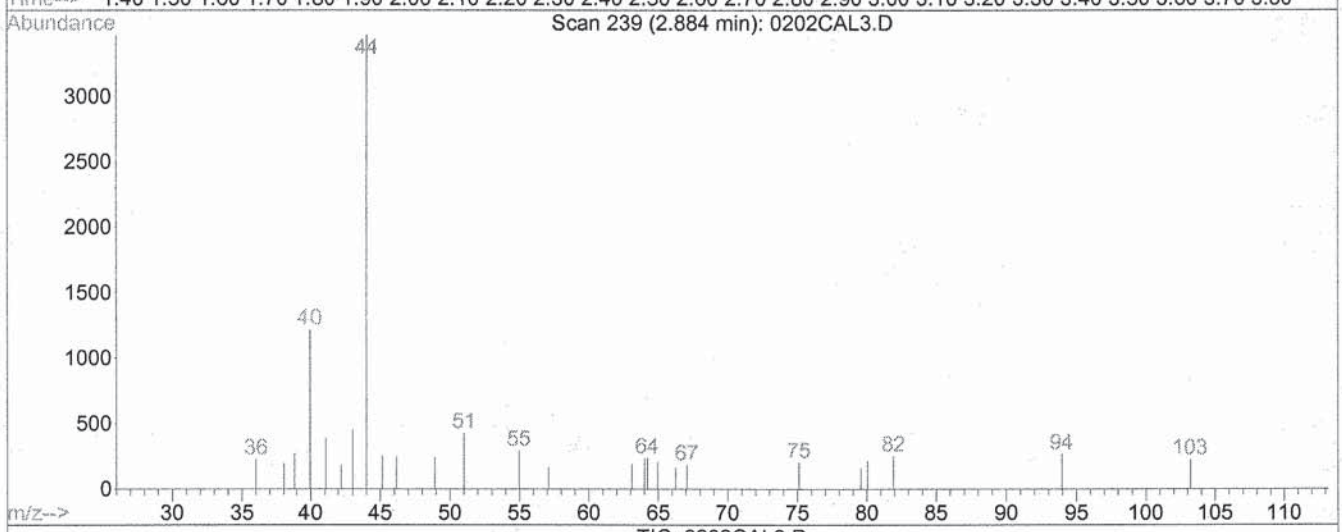
0202CAL3.D 020215W6.M Tue Feb 03 06:50:40 2015

Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL3.D Vial: 5
Acq On : 2 Feb 2015 11:34 am Operator:
Sample : SEQ-CAL3 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:18 2015 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:18:38 2015
Response via : Multiple Level Calibration





TIC: 0202CAL3.D

(6) Chloroethane (M)

2.88min 0.32ug/L

response 822

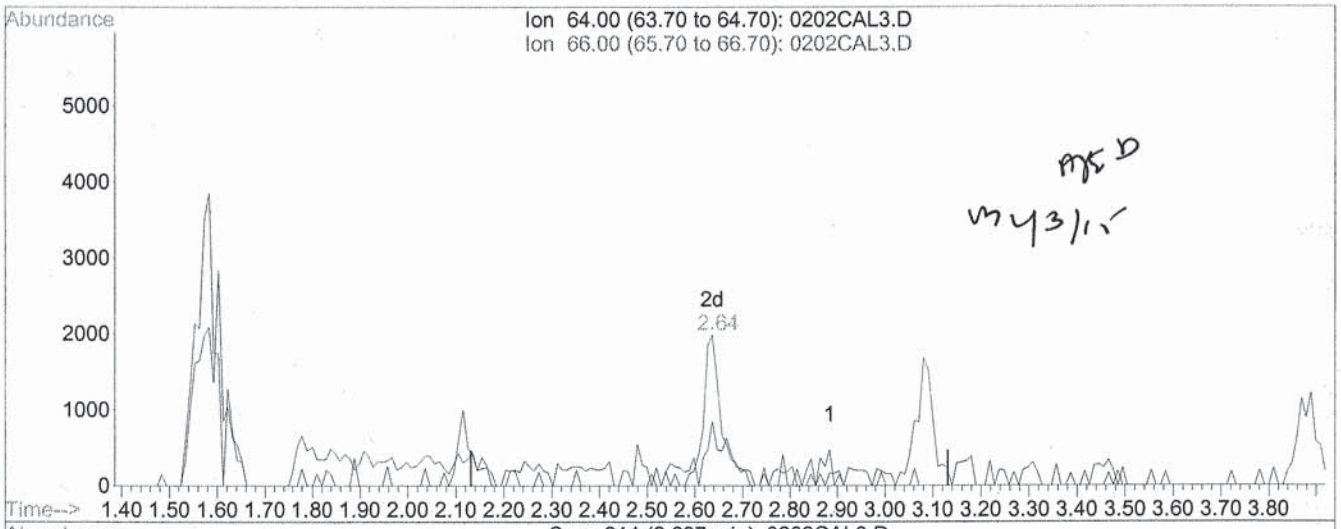
Ion	Exp%	Act%
64.00	100	100
66.00	31.10	36.98
0.00	0.00	0.00
0.00	0.00	0.00

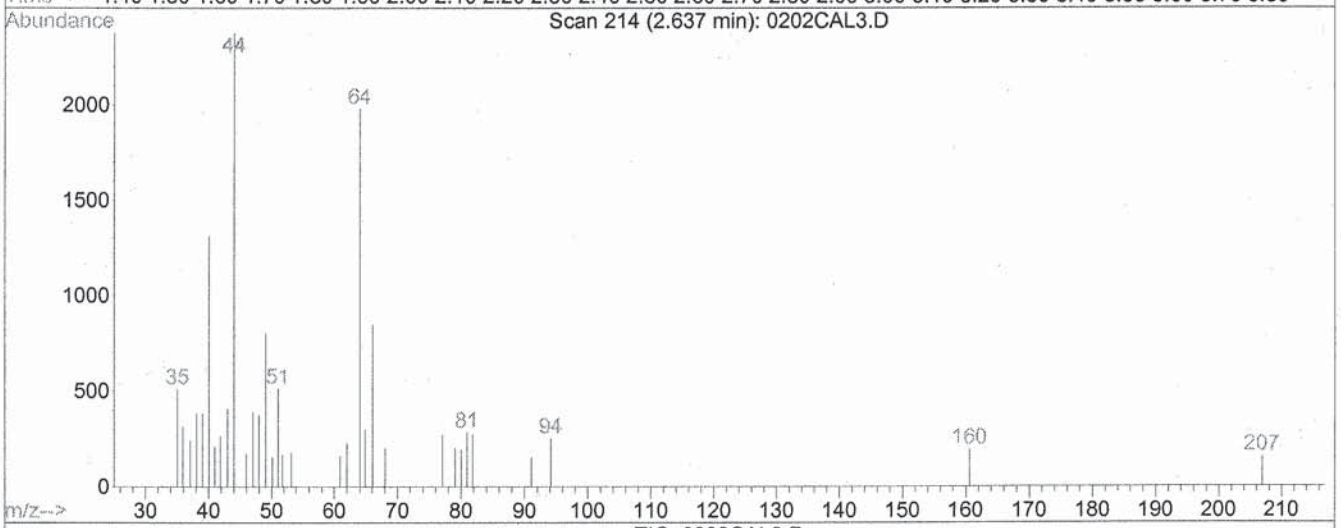
0202CAL3.D 020215W6.M Tue Feb 03 06:18:58 2015

Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL3.D Vial: 5
Acq On : 2 Feb 2015 11:34 am Operator:
Sample : SEQ-CAL3 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:19 2015 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:18:38 2015
Response via : Multiple Level Calibration





TIC: 0202CAL3.D

(6) Chloroethane (M)

2.64min 2.11ug/L m

response 5415

Ion	Exp%	Act%
64.00	100	100
66.00	31.10	5.61#
0.00	0.00	0.00
0.00	0.00	0.00

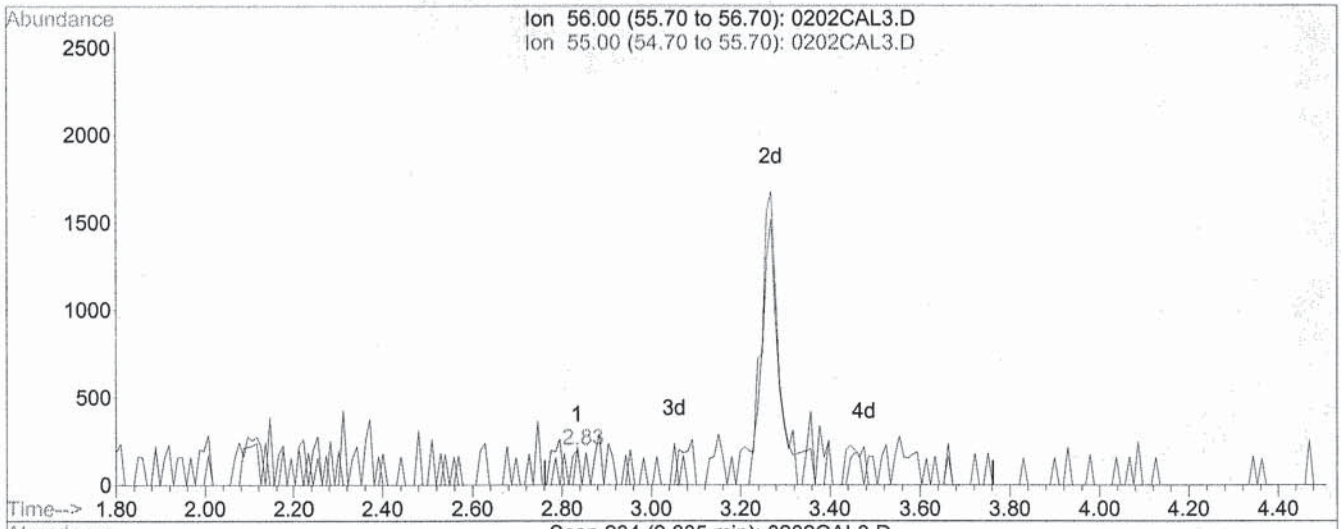
02/05/15

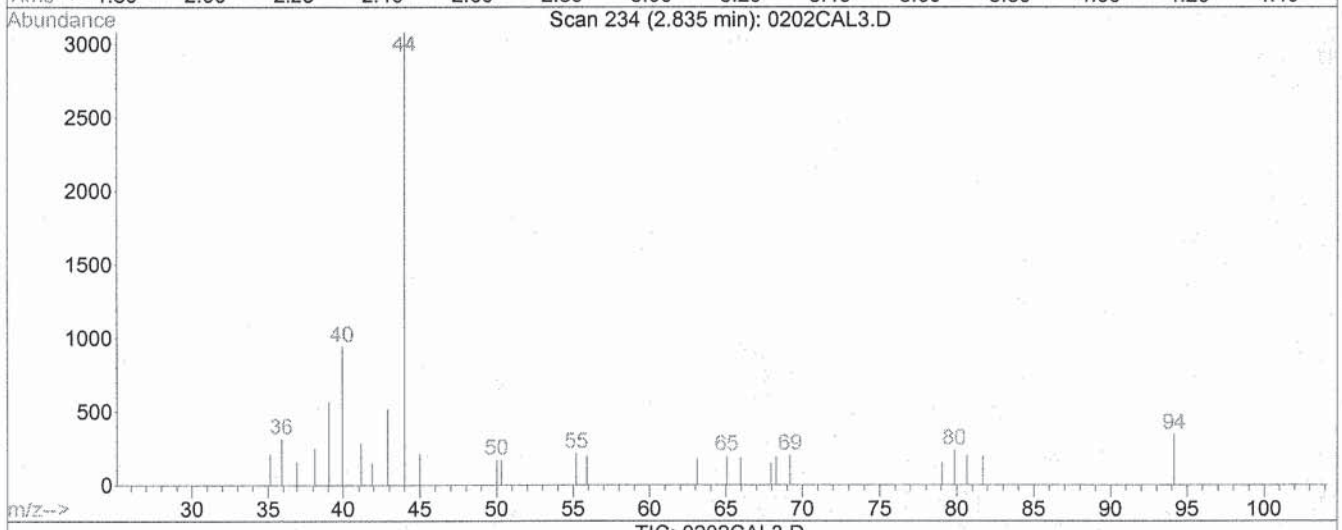
0202CAL3.D 020215W6.M Tue Feb 03 06:19:02 2015

Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL3.D Vial: 5
Acq On : 2 Feb 2015 11:34 am Operator:
Sample : SEQ-CAL3 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:19 2015 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:18:38 2015
Response via : Multiple Level Calibration





TIC: 0202CAL3.D

(8) Acrolein (M)

2.83min 0.69ug/L

response 321

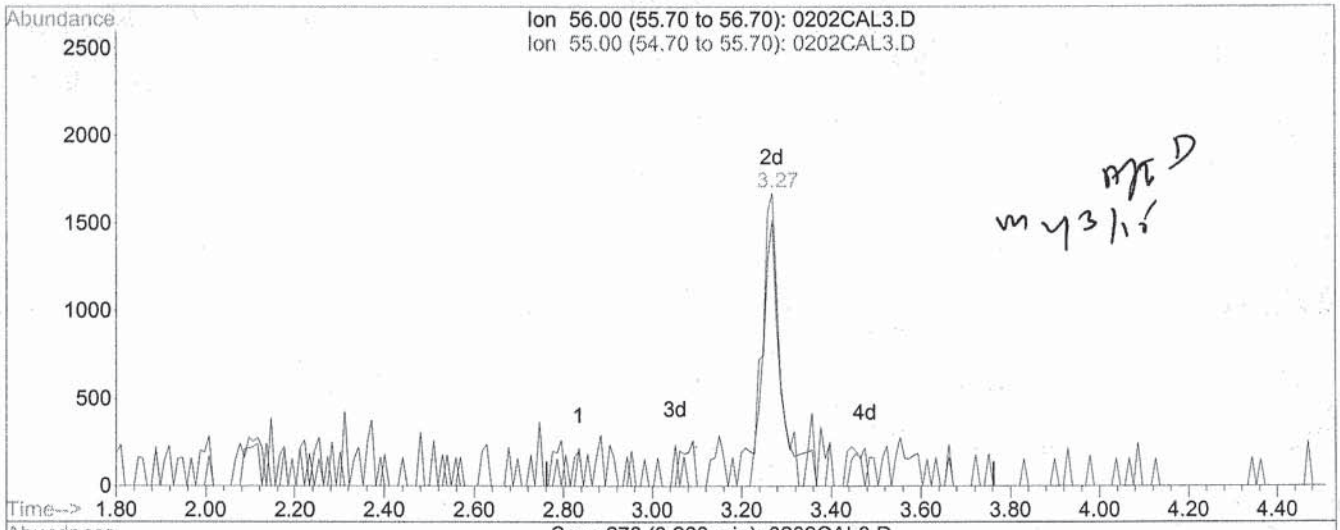
Ion	Exp%	Act%
56.00	100	100
55.00	76.60	85.05
0.00	0.00	0.00
0.00	0.00	0.00

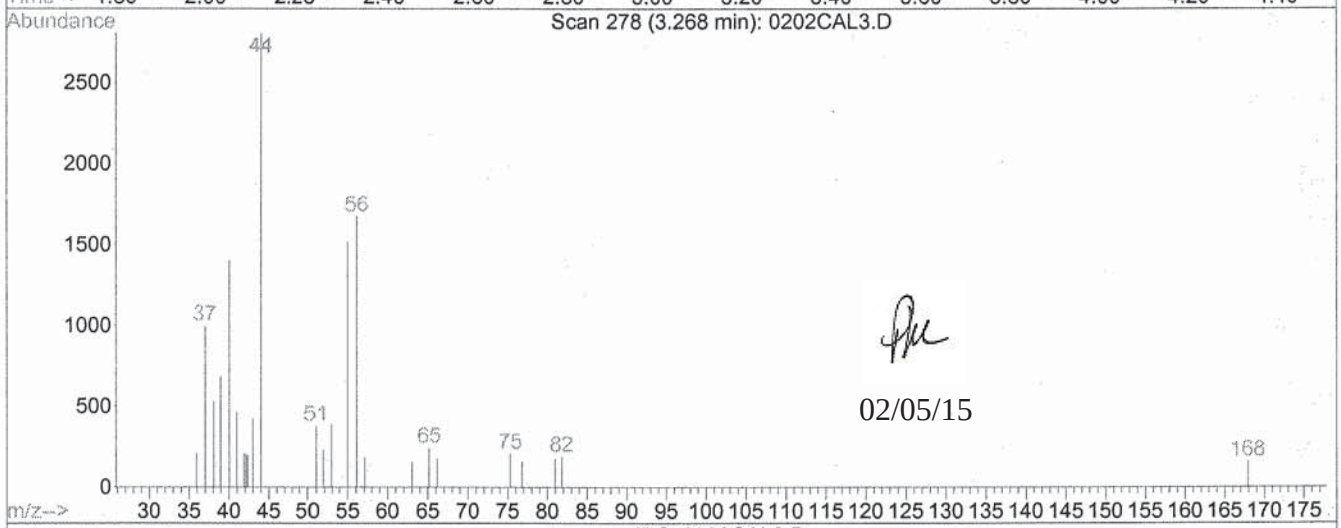
0202CAL3.D 020215W6.M Tue Feb 03 06:19:06 2015

Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL3.D Vial: 5
Acq On : 2 Feb 2015 11:34 am Operator:
Sample : SEQ-CAL3 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:19 2015 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:18:38 2015
Response via : Multiple Level Calibration





TIC: 0202CAL3.D

02/05/15

(8) Acrolein (M)

3.27min 10.04ug/L m

response 4703

Ion	Exp%	Act%
56.00	100	100
55.00	76.60	5.80#
0.00	0.00	0.00
0.00	0.00	0.00

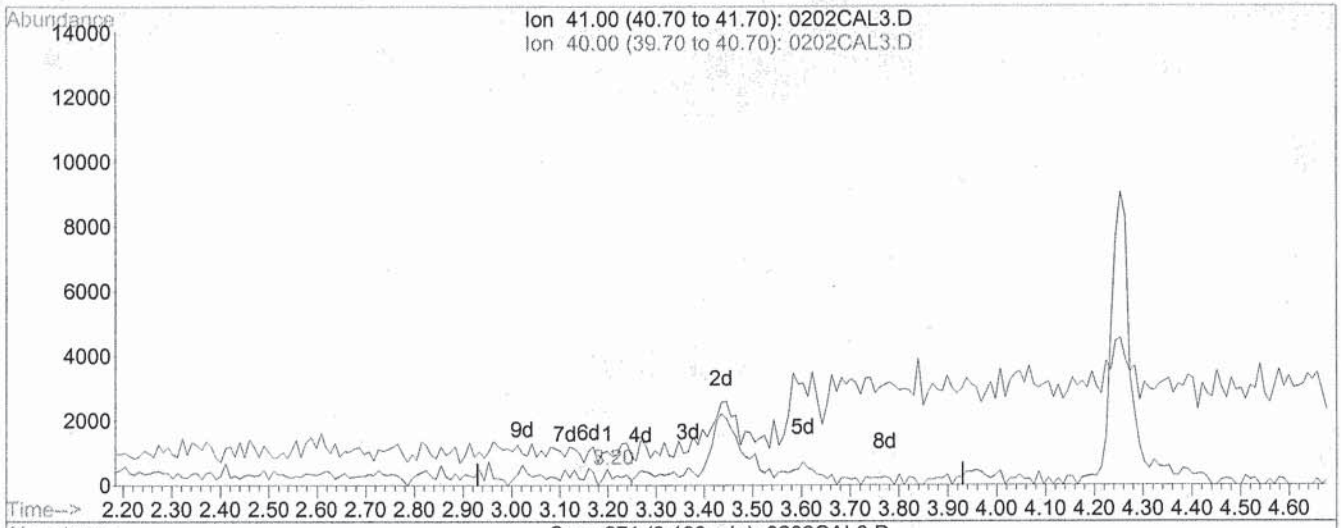
0202CAL3.D 020215W6.M Tue Feb 03 06:19:10 2015

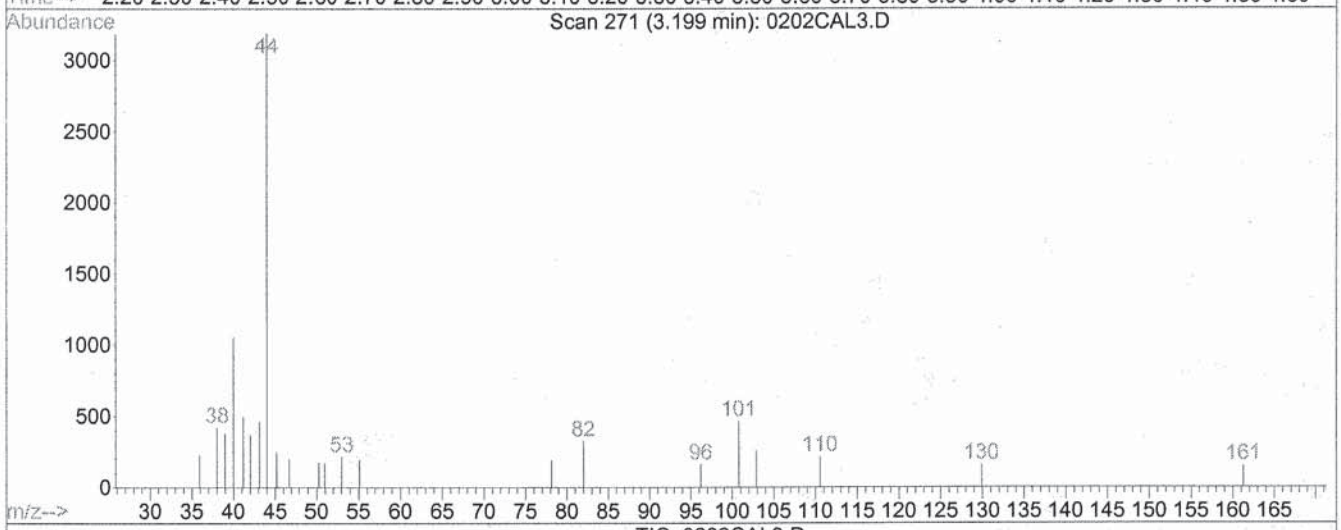
Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL3.D
Acq On : 2 Feb 2015 11:34 am
Sample : SEQ-CAL3
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:19 2015

Vial: 5
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:18:38 2015
Response via : Multiple Level Calibration





TIC: 0202CAL3.D

(10) Acetonitrile (M)

3.20min 1.79ug/L

response 1153

Ion	Exp%	Act%
41.00	100	100
40.00	39.40	41.63
0.00	0.00	0.00
0.00	0.00	0.00

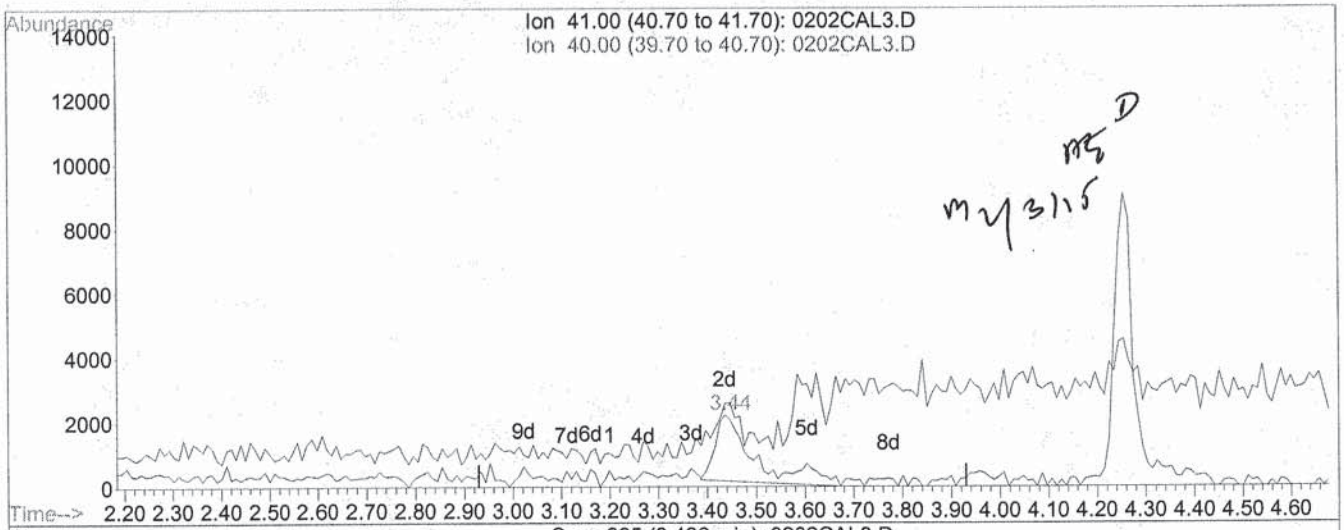
0202CAL3.D 020215W6.M Tue Feb 03 06:19:14 2015

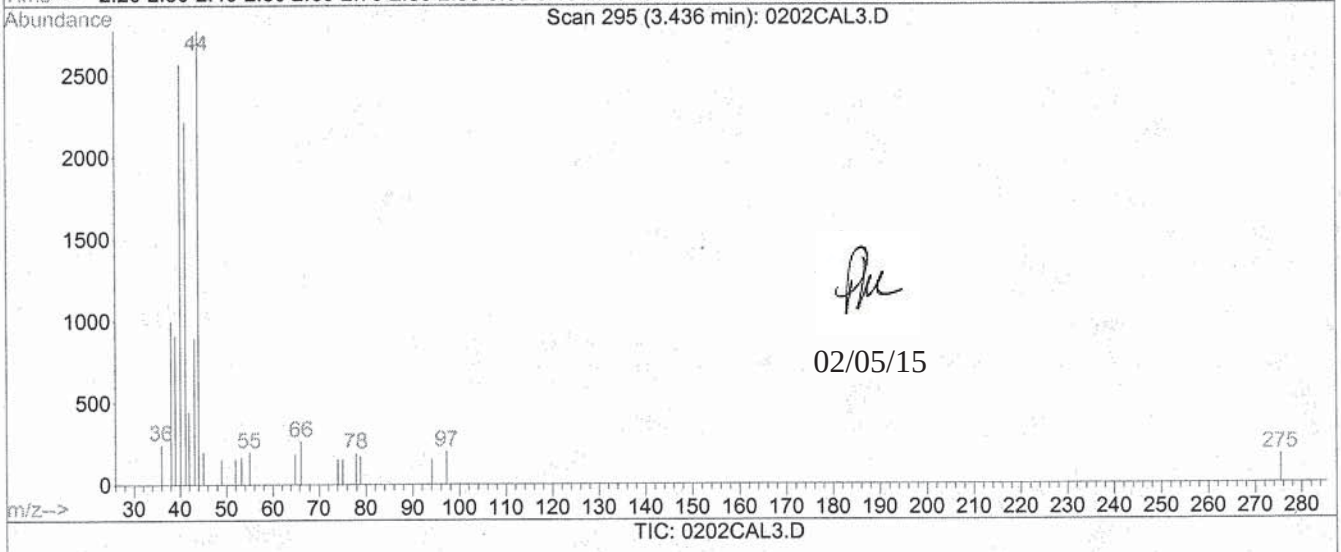
Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL3.D
Acq On : 2 Feb 2015 11:34 am
Sample : SEQ-CAL3
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:19 2015

Vial: 5
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:18:38 2015
Response via : Multiple Level Calibration





TIC: 0202CAL3.D

02/05/15

(10) Acetonitrile (M)

3.44min 17.92ug/L m

response 11518

Ion	Exp%	Act%
41.00	100	100
40.00	39.40	4.17#
0.00	0.00	0.00
0.00	0.00	0.00

0202CAL3.D 020215W6.M Tue Feb 03 06:19:20 2015

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL4.D Vial: 6
Acq On : 2 Feb 2015 12:02 pm Operator:
Sample : SEQ-CAL4 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00

02/05/15

MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:57 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:17:19 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	7.57	96	869305	30.00	ug/L		0.00
60) Chlorobenzene-d5	10.69	82	368779	30.00	ug/L		0.00
83) 1,4-Dichlorobenzene-d4	13.08	152	351357	30.00	ug/L		0.00
System Monitoring Compounds							
38) Dibromofluoromethane	6.54	111	603362	53.16	ug/L		0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 177.20%#				
42) 1,2-Dichloroethane-d4	7.04	102	106776	52.52	ug/L		0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 175.07%#				
61) Toluene-d8	9.27	98	1337695	49.33	ug/L		0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 164.43%#				
82) Bromofluorobenzene	11.89	95	574983	49.14	ug/L		0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 163.80%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.78	85	45072	4.5477	ug/L		99
3) Chloromethane	1.98	50	23553	5.1313	ug/L		92
4) Vinyl chloride	2.11	62	15729	4.5279	ug/L		95
5) Bromomethane	2.51	94	16056	4.3808	ug/L		96
6) Chloroethane	2.63	64	11471	4.4753	ug/L	#	80
7) Trichlorofluoromethane	3.09	101	71935m	5.4770	ug/L		
8) Acrolein	3.26	56	12030	25.7430	ug/L		97
9) Acetone	3.37	43	22345	9.7503	ug/L		97
10) Acetonitrile	3.43	41	30856m	43.6815	ug/L		
11) Ethyl Ether	3.48	59	15729	3.6833	ug/L		92
12) 1,1-Dichloroethene	3.81	96	37665	4.8284	ug/L		98
13) Trichlorotrifluoroethane	3.88	101	43769	4.9917	ug/L		100
14) Iodomethane	4.00	142	72579	4.8486	ug/L		92
15) t-Butyl Alcohol	3.96	59	12402	16.9974	ug/L	#	75
16) Methyl Acetate	4.17	43	31768	4.2175	ug/L		99
17) Acrylonitrile	4.18	53	72336	20.9415	ug/L		97
18) Allyl chloride	4.26	76	18303	4.6462	ug/L		82
19) Methylene chloride	4.31	84	51540	5.3174	ug/L		89
20) Carbon disulfide	4.35	76	153990	5.2734	ug/L		97
21) trans-1,2-dichloroethene	4.99	96	43298	5.1741	ug/L		95
22) MTBE	5.00	73	114747	5.2353	ug/L		98
23) 1,1-Dichloroethane	5.38	63	75221	4.7221	ug/L		100
24) Vinyl acetate	5.46	43	181642	8.2280	ug/L		100
25) Propionitrile	5.56	54	56117	46.3158	ug/L	#	91
26) Hexane	5.60	57	30761	4.9048	ug/L		95
27) Chloroprene	5.65	53	78318	5.3320	ug/L		97
28) Di-isopropyl ether	5.77	45	173809	4.8604	ug/L		99
29) 2-Butanone	5.85	43	45065	8.6507	ug/L		96
30) Methacrylonitrile	6.01	41	298414	50.4799	ug/L	#	86
31) cis-1,2-Dichloroethene	6.10	96	49807	5.1199	ug/L		95
32) Ethyl Acetate	6.23	43	69455	5.3558	ug/L		99
33) 2,2-Dichloropropane	6.21	77	61311	4.8313	ug/L		97
34) ETBE	6.24	59	138825	4.9610	ug/L		95
35) Chloroform	6.37	83	89380	5.1778	ug/L		99
36) Bromochloromethane	6.39	128	29121	5.0878	ug/L		98
37) Isobutyl alcohol	6.48	42	10427	56.6965	ug/L		85
39) Tetrahydrofuran	6.57	72	3847	4.6168	ug/L		74
40) tert-Amyl alcohol	6.75	59	8707	16.7377	ug/L	#	88
41) 1,1,1-Trichloroethane	6.93	97	73083	5.0408	ug/L		97

(#) = qualifier out of range (m) = manual integration
0202CAL4.D 020215W6.M Tue Feb 03 06:58:19 2015 Page 1

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL4.D Vial: 6
Acq On : 2 Feb 2015 12:02 pm Operator:
Sample : SEQ-CAL4 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:57 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:17:19 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloroethane	7.14	62	75377	5.0953	ug/L		99
44)	1,1-Dichloropropene	7.15	75	59119	4.9593	ug/L		96
45)	Cyclohexane	7.20	56	56140	4.7279	ug/L		99
46)	Carbon tetrachloride	7.26	117	62567	4.6932	ug/L		100
47)	Benzene	7.30	78	151763	5.0451	ug/L		98
48)	tert- Amyl Methyl Ether	7.50	73	105231	4.7491	ug/L		95
49)	Trichloroethene	8.07	95	50017	5.1668	ug/L		96
50)	1,2-Dichloropropane	8.12	63	40771	4.8256	ug/L		89
51)	Dibromomethane	8.23	93	38617	5.1185	ug/L		98
52)	Methyl methacrylate	8.27	41	36238	3.9580	ug/L		95
53)	1,4-Dioxane	8.29	88	8427	104.5332	ug/L		94
54)	Bromodichloromethane	8.30	83	62586	5.1022	ug/L		100
55)	tert- Amyl Ethyl Ether	8.40	59	112912	4.8124	ug/L		97
56)	Methyl cyclohexane	8.45	83	43414	5.1248	ug/L		99
57)	2-Chloroethyl vinyl ether	8.66	63	49743	11.0213	ug/L		98
58)	4-Methyl-2-pentanone	8.80	43	86097	8.8188	ug/L	#	92
59)	cis-1,3-Dichloropropene	8.88	75	65581	4.6872	ug/L		93
62)	trans-1,3-Dichloropropene	9.35	75	62355	4.8189	ug/L		92
63)	Toluene	9.34	92	91093	5.3976	ug/L		99
64)	1,1,2-Trichloroethane	9.50	83	33580	5.2231	ug/L		96
65)	Ethyl methacrylate	9.55	69	42332	4.3363	ug/L		98
66)	2-Hexanone	9.66	43	58716	9.0744	ug/L	#	93
67)	1,3-Dichloropropane	9.72	76	65582	5.4722	ug/L		98
68)	Dibromochloromethane	9.97	129	51791	4.5603	ug/L		96
69)	Tetrachloroethene	10.07	166	47194	4.8646	ug/L		96
70)	1,2-Dibromoethane	10.18	107	46063	4.9095	ug/L		96
71)	1-Chlorohexane	10.70	91	44562	5.2887	ug/L		92
72)	Chlorobenzene	10.73	112	107383	5.3104	ug/L		98
73)	1,1,1,2-Tetrachloroethane	10.77	131	41376	4.7443	ug/L		96
74)	Ethylbenzene	10.88	91	166558	5.0124	ug/L		95
75)	m,p-Xylene	10.99	91	260519	10.4794	ug/L		90
76)	Styrene	11.35	104	109996	5.3763	ug/L		94
77)	o-Xylene	11.38	91	135073	5.3449	ug/L		94
78)	Bromoform	11.45	173	36405	4.5359	ug/L		100
79)	Cyclohexanone	11.50	55	6838	2.7087	ug/L	#	84
80)	Isopropylbenzene	11.78	105	147859	5.0136	ug/L		98
81)	1,2,3-Trichloropropane	11.83	110	15683	5.1681	ug/L	#	46
84)	cis-1,4-Dichloro-2-butene	11.54	53	16343	4.2205	ug/L		84
85)	1,1,2,2-Tetrachloroethane	11.71	83	47657	4.9113	ug/L		97
86)	trans-1,4-Dichloro-2-buten	11.86	53	14186	3.9897	ug/L	#	1
87)	Bromobenzene	12.04	156	49474	4.7461	ug/L		99
88)	n-Propylbenzene	12.18	91	166275	4.9101	ug/L		96
89)	2-Chlorotoluene	12.26	91	111477	5.0068	ug/L		96
90)	4-Chlorotoluene	12.33	91	132289	4.9877	ug/L		99
91)	1,3,5-Trimethylbenzene	12.36	105	121140	5.0007	ug/L		96
92)	tert-Butylbenzene	12.70	119	101640	4.9398	ug/L		95
93)	1,2,4-Trimethylbenzene	12.73	105	126626	4.9613	ug/L		94
94)	sec-Butylbenzene	12.93	105	130741	5.0762	ug/L		99
95)	1,3-Dichlorobenzene	13.02	146	81967	4.9956	ug/L		98
96)	1,4-Dichlorobenzene	13.11	146	85696	5.0156	ug/L		100
97)	p-Isopropyltoluene	13.07	119	103583	4.9673	ug/L		97
98)	1,2-Dichlorobenzene	13.42	146	80287	4.9597	ug/L		98
99)	n-Butylbenzene	13.47	91	96994	4.9686	ug/L		98

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

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL4.D Vial: 6
Acq On : 2 Feb 2015 12:02 pm Operator:
Sample : SEQ-CAL4 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:57 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:17:19 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

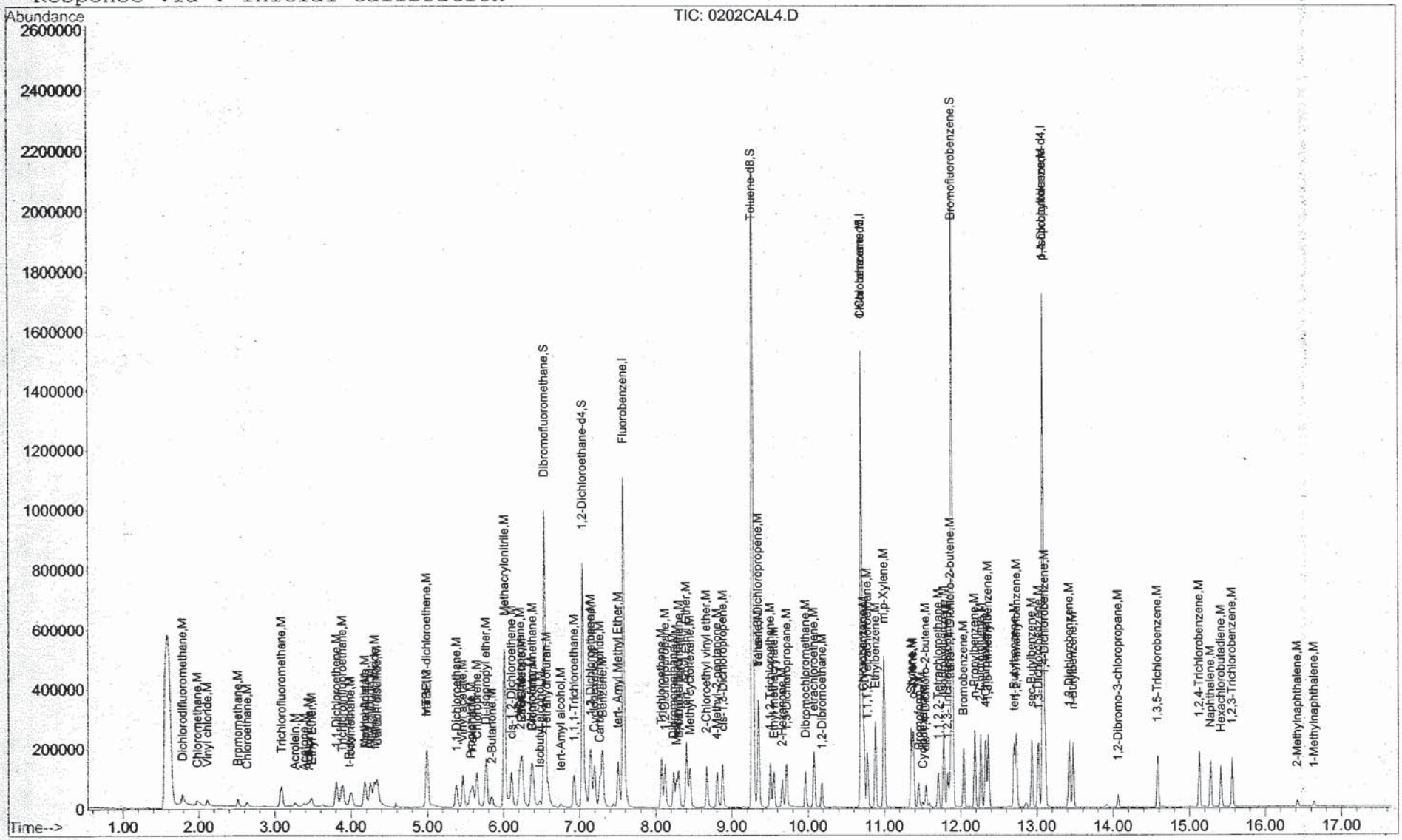
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
100)	1,2-Dibromo-3-chloropropan	14.07	157	9364	4.3661 ug/L	96
101)	1,3,5-Trichlorobenzene	14.59	180	53718	4.6197 ug/L	99
102)	1,2,4-Trichlorobenzene	15.13	180	49378	4.5148 ug/L	99
103)	Naphthalene	15.28	128	102881	4.4885 ug/L	100
104)	Hexachlorobutadiene	15.42	225	22720	4.3708 ug/L	97
105)	1,2,3-Trichlorobenzene	15.56	180	43881	4.5061 ug/L	97
106)	2-Methylnaphthalene	16.42	142	8968	1.0191 ug/L	98
107)	1-Methylnaphthalene	16.64	142	6707	0.9294 ug/L	93

(#) = qualifier out of range (m) = manual integration
0202CAL4.D 020215W6.M Tue Feb 03 06:58:20 2015 Page 3

Quantitation Report

Data File : D:\DATA\020215V6\0202CAL4.D Vial: 6
Acq On : 2 Feb 2015 12:02 pm Operator:
Sample : SEQ-CAL4 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:57 2015 Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:57:52 2015
Response via : Initial Calibration

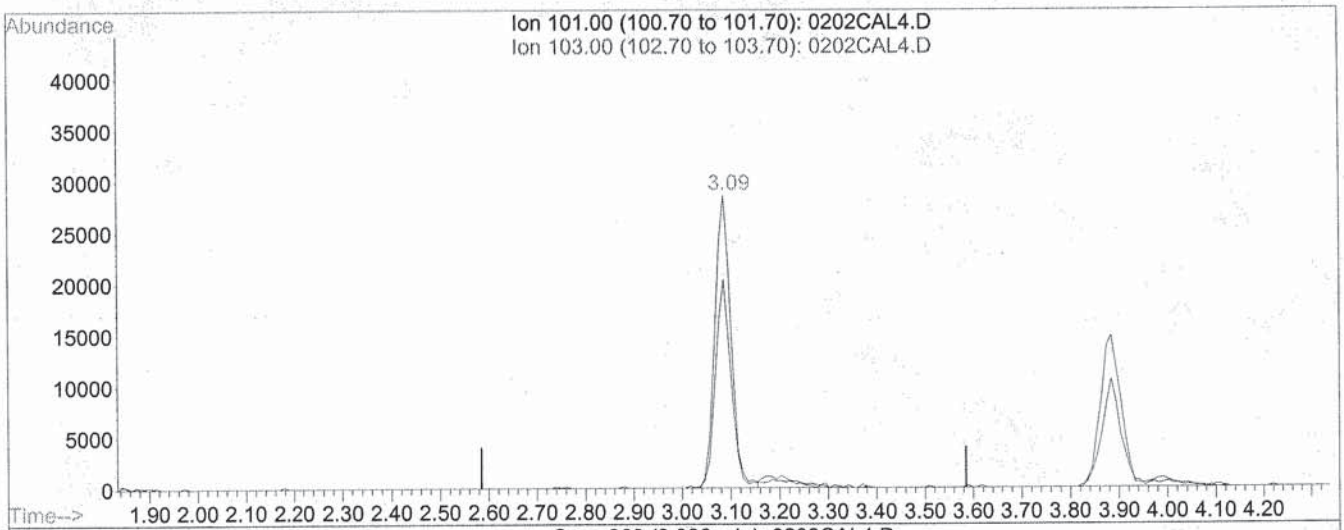


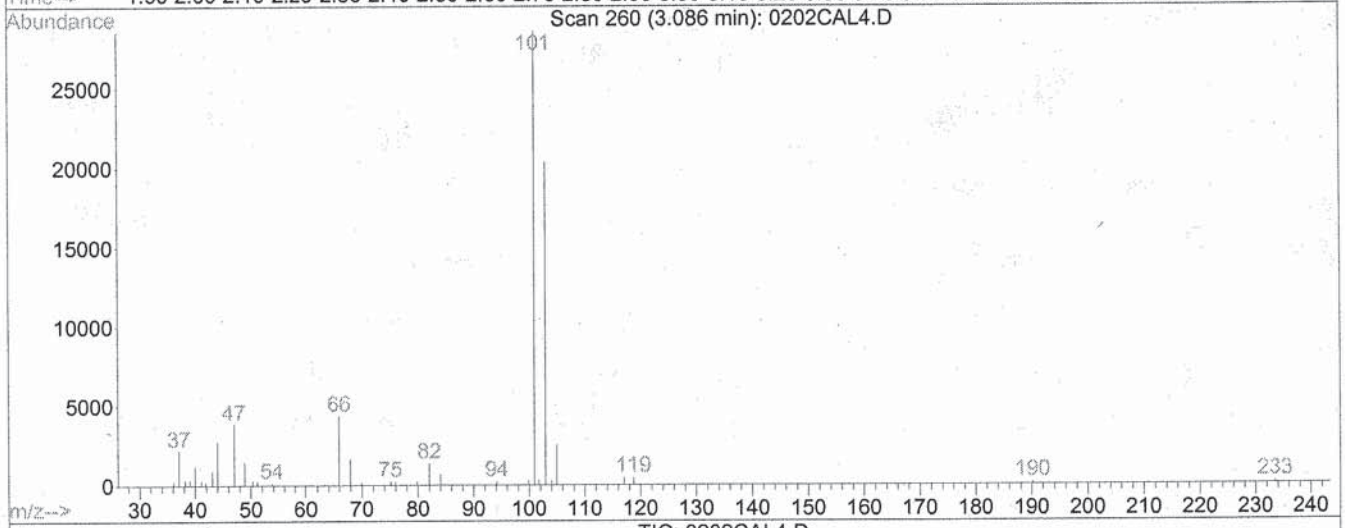
Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL4.D
Acq On : 2 Feb 2015 12:02 pm
Sample : SEQ-CAL4
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:17 2015

Vial: 6
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:48:19 2015
Response via : Multiple Level Calibration





TIC: 0202CAL4.D

(7) Trichlorofluoromethane (M)

3.09min 5.04ug/L

response 66147

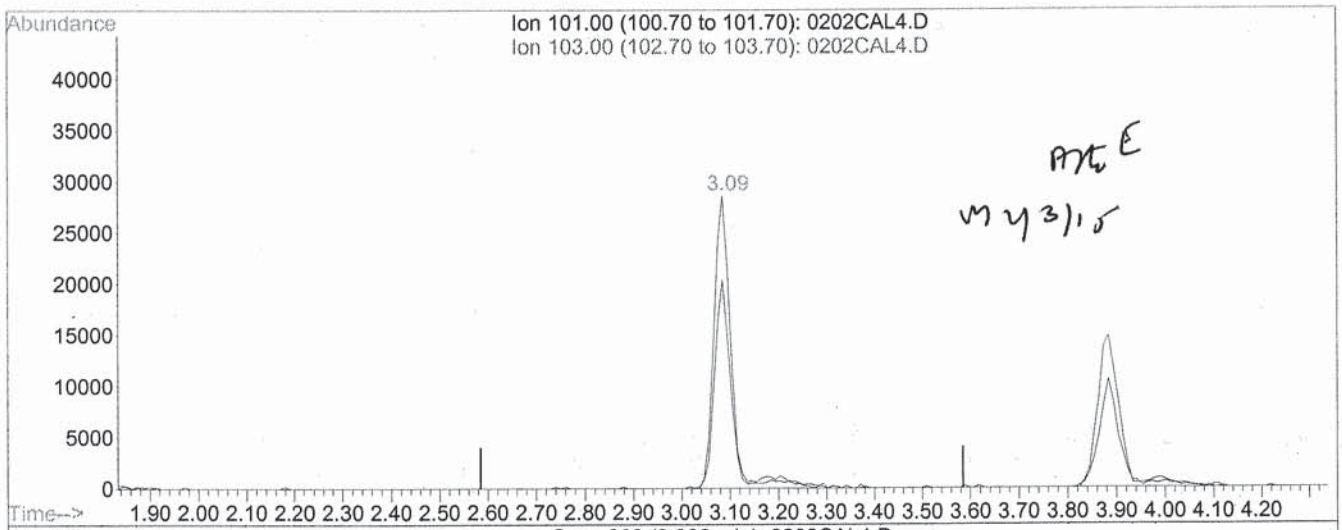
Ion	Exp%	Act%
101.00	100	100
103.00	66.20	70.12
0.00	0.00	0.00
0.00	0.00	0.00

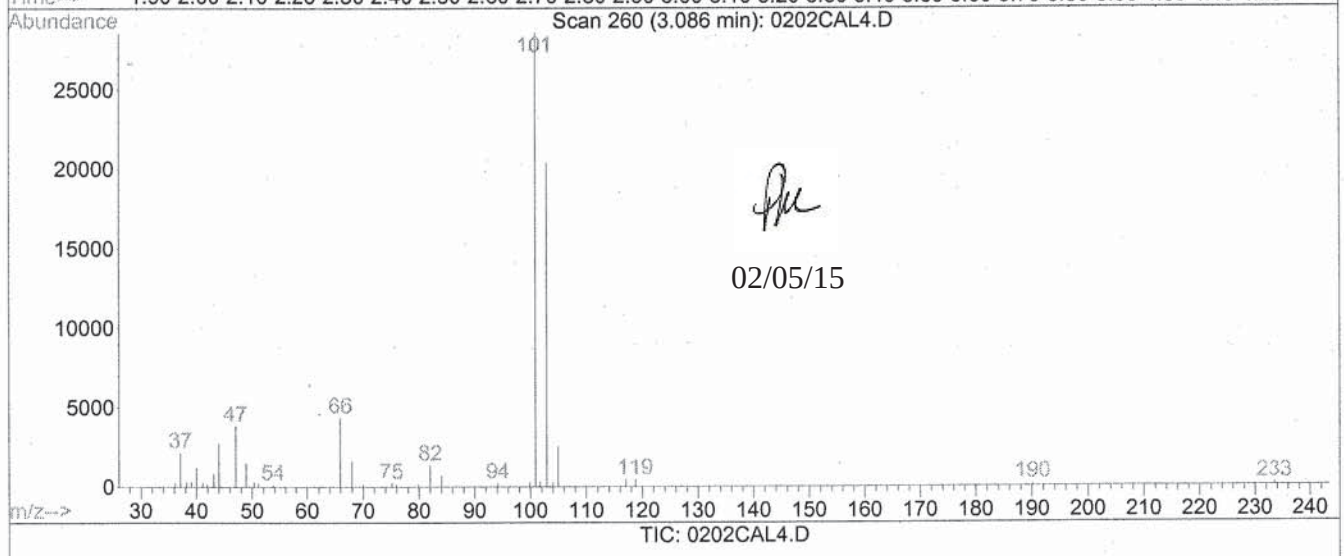
Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL4.D
Acq On : 2 Feb 2015 12:02 pm
Sample : SEQ-CAL4
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:57 2015

Vial: 6
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:48:19 2015
Response via : Multiple Level Calibration





02/05/15

TIC: 0202CAL4.D

(7) Trichlorofluoromethane (M)

3.09min 5.48ug/L m

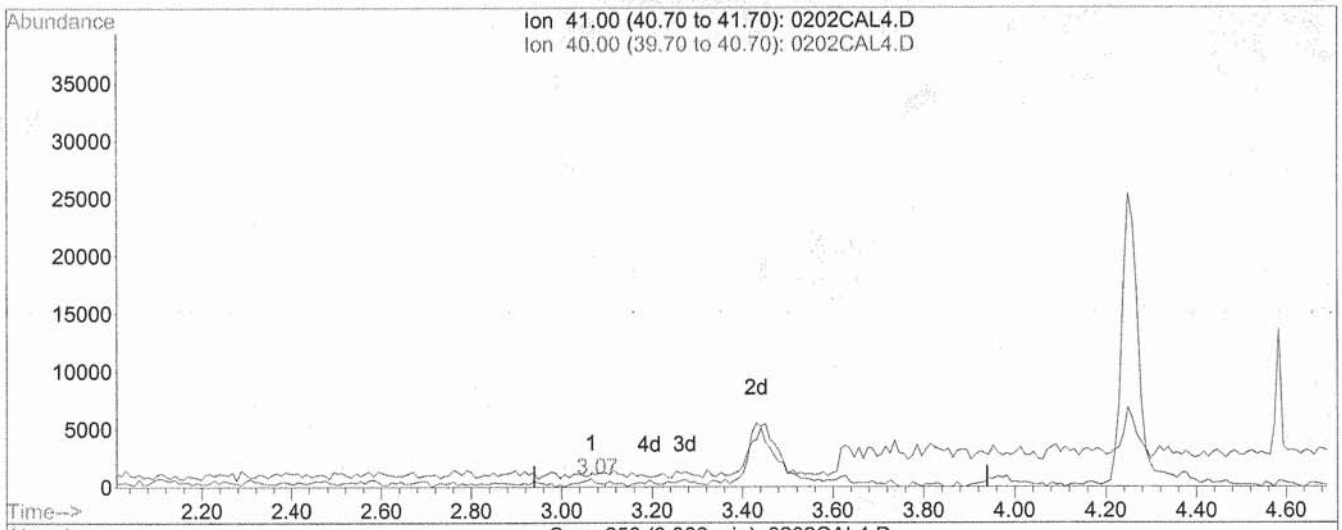
response 71935

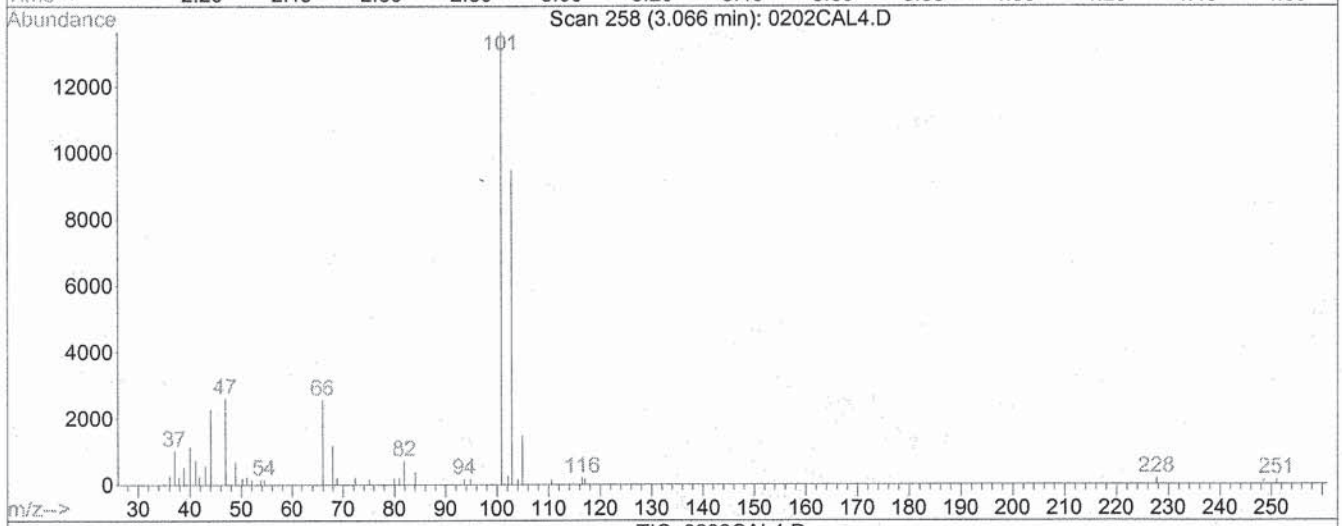
Ion	Exp%	Act%
101.00	100	100
103.00	66.20	64.48
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL4.D Vial: 6
Acq On : 2 Feb 2015 12:02 pm Operator:
Sample : SEQ-CAL4 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:17 2015 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:17:19 2015
Response via : Multiple Level Calibration





TIC: 0202CAL4.D

(10) Acetonitrile (M)

3.07min 2.88ug/L

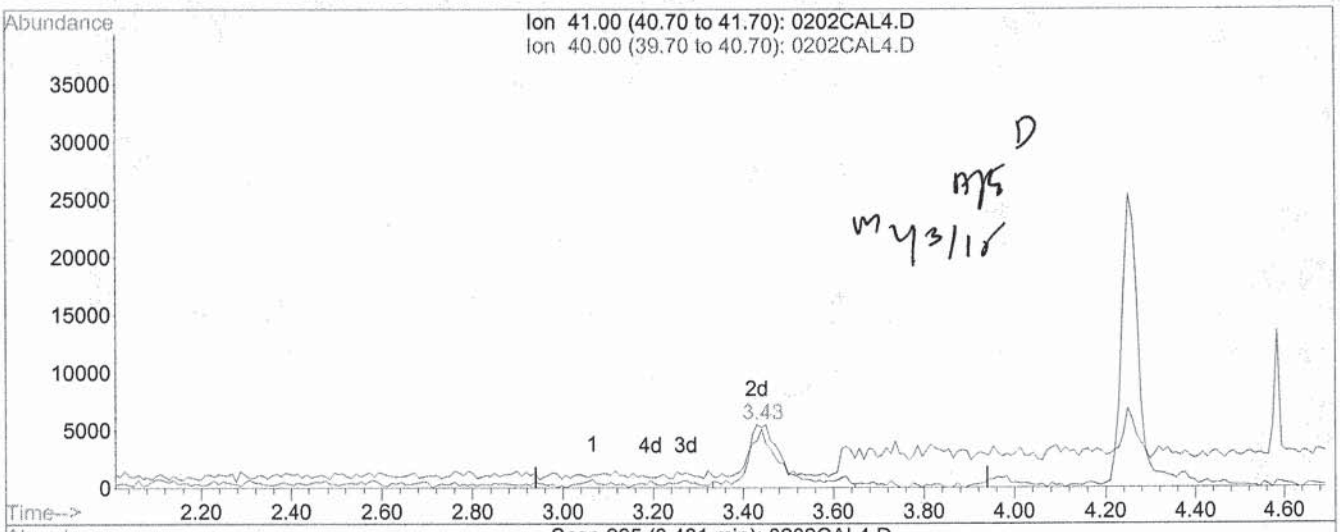
response 2031

Ion	Exp%	Act%
41.00	100	100
40.00	39.40	39.73
0.00	0.00	0.00
0.00	0.00	0.00

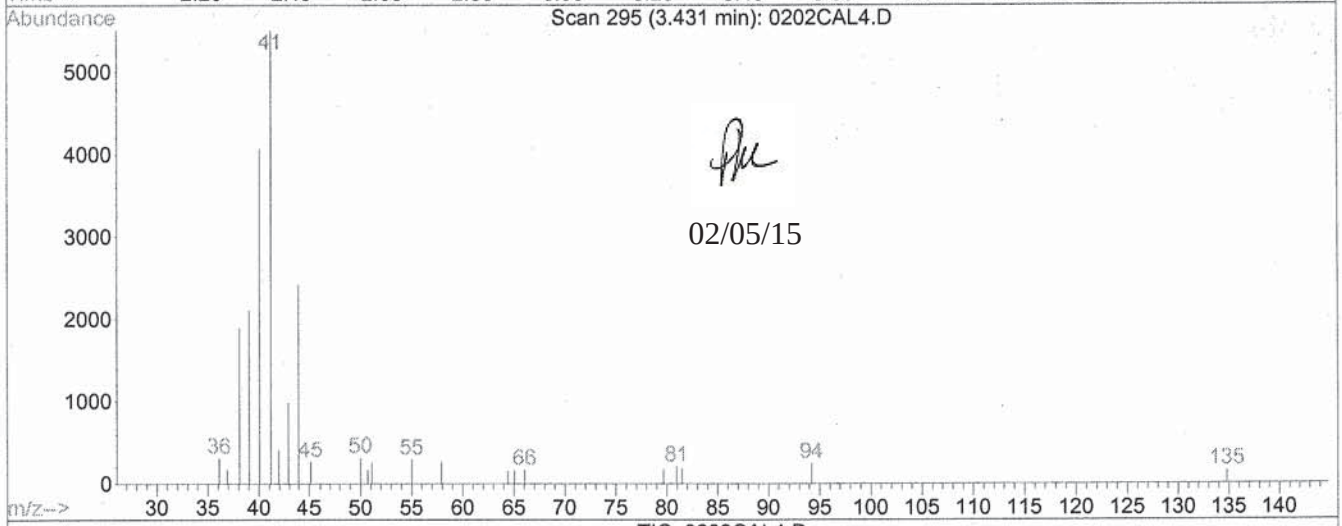
Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL4.D Vial: 6
Acq On : 2 Feb 2015 12:02 pm Operator:
Sample : SEQ-CAL4 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:17 2015 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:17:19 2015
Response via : Multiple Level Calibration



D
BJS
MY3/18



TIC: 0202CAL4.D

02/05/15

(10) Acetonitrile (M)

3.43min 43.68ug/L m

response 30856

Ion	Exp%	Act%
41.00	100	100
40.00	39.40	2.62#
0.00	0.00	0.00
0.00	0.00	0.00

0202CAL4.D 020215W6.M Tue Feb 03 06:17:45 2015

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL5.D Vial: 7
Acq On : 2 Feb 2015 12:29 pm Operator:
Sample : SEQ-CAL5 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00

02/05/15

MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:59 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:16:00 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

mm 3/15

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.57	96	838442	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.69	82	363020	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.08	152	342907	30.00	ug/L	0.00
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	702973	64.96	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 216.53%#			
42) 1,2-Dichloroethane-d4	7.05	102	121810	62.42	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 208.07%#			
61) Toluene-d8	9.28	98	1552790	58.12	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 193.73%#			
82) Bromofluorobenzene	11.89	95	666734	58.08	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 193.60%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.78	85	106170	11.6950	ug/L	97
3) Chloromethane	1.98	50	46856	10.8854	ug/L	98
4) Vinyl chloride	2.11	62	30473	9.3318	ug/L	97
5) Bromomethane	2.51	94	34868	10.2010	ug/L	87
6) Chloroethane	2.63	64	25342	10.5178	ug/L	89
7) Trichlorofluoromethane	3.09	101	144531m	11.9084	ug/L	
8) Acrolein	3.26	56	20701	46.3603	ug/L	87
9) Acetone	3.38	43	42663	19.9857	ug/L	96
10) Acetonitrile	3.44	41	55120m	74.5510	ug/L	
11) Ethyl Ether	3.48	59	29887	6.7932	ug/L	98
12) 1,1-Dichloroethene	3.81	96	75817	10.2450	ug/L	94
13) Trichlorotrifluoroethane	3.88	101	87166	10.5589	ug/L	97
14) Iodomethane	4.00	142	157475	11.1301	ug/L	97
15) t-Butyl Alcohol	3.97	59	23897	33.4211	ug/L #	87
16) Methyl Acetate	4.17	43	67042	9.2188	ug/L	99
17) Acrylonitrile	4.18	53	158131	47.7930	ug/L	94
18) Allyl chloride	4.25	76	37513	9.9429	ug/L	83
19) Methylene chloride	4.31	84	99010	10.7704	ug/L	92
20) Carbon disulfide	4.35	76	292998	10.6150	ug/L	96
21) trans-1,2-dichloroethene	5.00	96	85808	10.8413	ug/L	92
22) MTBE	5.00	73	214052	10.3272	ug/L	98
23) 1,1-Dichloroethane	5.38	63	146785	9.5770	ug/L	99
24) Vinyl acetate	5.46	43	363831	16.8816	ug/L	98
25) Propionitrile	5.56	54	106892	91.1733	ug/L #	94
26) Hexane	5.60	57	55635	9.0583	ug/L	94
27) Chloroprene	5.65	53	145075	10.5163	ug/L	97
28) Di-isopropyl ether	5.77	45	324472	9.3567	ug/L	98
29) 2-Butanone	5.85	43	92464	18.4369	ug/L	96
30) Methacrylonitrile	6.01	41	563481	98.8992	ug/L	86
31) cis-1,2-Dichloroethene	6.10	96	97023	10.4653	ug/L	92
32) Ethyl Acetate	6.23	43	128950	10.5758	ug/L	98
33) 2,2-Dichloropropane	6.21	77	117046	9.7075	ug/L	97
34) ETBE	6.24	59	262017	9.7684	ug/L	98
35) Chloroform	6.37	83	170326	10.4448	ug/L	99
36) Bromochloromethane	6.39	128	57263	10.5092	ug/L	97
37) Isobutyl alcohol	6.48	42	18939	102.1426	ug/L	95
39) Tetrahydrofuran	6.57	72	7440	9.3400	ug/L	87
40) tert-Amyl alcohol	6.75	59	19405	38.3363	ug/L	96
41) 1,1,1-Trichloroethane	6.93	97	139546	10.2326	ug/L	99

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

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL5.D Vial: 7
Acq On : 2 Feb 2015 12:29 pm Operator:
Sample : SEQ-CAL5 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:59 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:16:00 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloroethane	7.14	62	145802	10.5149	ug/L		99
44)	1,1-Dichloropropene	7.15	75	117617	10.3985	ug/L		98
45)	Cyclohexane	7.20	56	105094	9.1236	ug/L		99
46)	Carbon tetrachloride	7.27	117	122985	9.7849	ug/L		99
47)	Benzene	7.30	78	284813	9.8743	ug/L		97
48)	tert- Amyl Methyl Ether	7.50	73	220313	10.5037	ug/L		98
49)	Trichloroethene	8.07	95	92744	10.1169	ug/L		99
50)	1,2-Dichloropropane	8.12	63	78783	9.6881	ug/L		94
51)	Dibromomethane	8.23	93	74884	10.5469	ug/L		99
52)	Methyl methacrylate	8.27	41	79027	9.0140	ug/L		98
53)	1,4-Dioxane	8.29	88	15559	203.5958	ug/L		90
54)	Bromodichloromethane	8.30	83	117443	10.1578	ug/L		96
55)	tert- Amyl Ethyl Ether	8.40	59	216571	9.5971	ug/L		97
56)	Methyl cyclohexane	8.45	83	82766	10.2651	ug/L		97
57)	2-Chloroethyl vinyl ether	8.67	63	98515	23.3763	ug/L		98
58)	4-Methyl-2-pentanone	8.81	43	167509	17.8674	ug/L	#	89
59)	cis-1,3-Dichloropropene	8.88	75	130987	9.7723	ug/L		94
62)	trans-1,3-Dichloropropene	9.35	75	125921	9.9984	ug/L		90
63)	Toluene	9.34	92	172090	10.4534	ug/L		98
64)	1,1,2-Trichloroethane	9.50	83	62632	9.9932	ug/L		98
65)	Ethyl methacrylate	9.55	69	84663	8.7721	ug/L		99
66)	2-Hexanone	9.66	43	112637	17.6101	ug/L	#	92
67)	1,3-Dichloropropane	9.72	76	120355	10.3142	ug/L		98
68)	Dibromochloromethane	9.97	129	105544	9.6206	ug/L		99
69)	Tetrachloroethene	10.07	166	91748	9.6663	ug/L		98
70)	1,2-Dibromoethane	10.18	107	94043	10.3824	ug/L		97
71)	1-Chlorohexane	10.71	91	85311	10.3899	ug/L		99
72)	Chlorobenzene	10.73	112	203562	10.3354	ug/L		100
73)	1,1,1,2-Tetrachloroethane	10.77	131	81285	9.4891	ug/L		97
74)	Ethylbenzene	10.88	91	329840	10.2213	ug/L		98
75)	m,p-Xylene	10.99	91	491331	20.2917	ug/L		92
76)	Styrene	11.35	104	213275	10.6891	ug/L		93
77)	o-Xylene	11.38	91	254275	10.3343	ug/L		95
78)	Bromoform	11.45	173	71451	9.2003	ug/L		97
79)	Cyclohexanone	11.50	55	15752	5.4823	ug/L	#	80
80)	Isopropylbenzene	11.78	105	284457	9.9224	ug/L		95
81)	1,2,3-Trichloropropane	11.83	110	30791	10.5983	ug/L	#	48
84)	cis-1,4-Dichloro-2-butene	11.54	53	32130	8.7147	ug/L		93
85)	1,1,2,2-Tetrachloroethane	11.71	83	94902	10.1755	ug/L		96
86)	trans-1,4-Dichloro-2-buten	11.86	53	29256	8.6056	ug/L	#	1
87)	Bromobenzene	12.04	156	98824	9.8203	ug/L		98
88)	n-Propylbenzene	12.18	91	322193	9.8899	ug/L		98
89)	2-Chlorotoluene	12.26	91	213669	9.9775	ug/L		96
90)	4-Chlorotoluene	12.33	91	253828	9.9451	ug/L		98
91)	1,3,5-Trimethylbenzene	12.36	105	230037	9.8792	ug/L		95
92)	tert-Butylbenzene	12.70	119	205456	10.4245	ug/L		87
93)	1,2,4-Trimethylbenzene	12.73	105	259059	10.6445	ug/L		94
94)	sec-Butylbenzene	12.93	105	252806	10.2070	ug/L		100
95)	1,3-Dichlorobenzene	13.02	146	161839	10.2305	ug/L		100
96)	1,4-Dichlorobenzene	13.11	146	159959	9.7159	ug/L		98
97)	p-Isopropyltoluene	13.07	119	201960	10.0861	ug/L		99
98)	1,2-Dichlorobenzene	13.42	146	153921	9.8427	ug/L		100
99)	n-Butylbenzene	13.47	91	191501	10.2067	ug/L		98

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

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL5.D Vial: 7
Acq On : 2 Feb 2015 12:29 pm Operator:
Sample : SEQ-CAL5 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:59 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:16:00 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
100) 1,2-Dibromo-3-chloropropan	14.07	157	18960	9.2478 ug/L	89
101) 1,3,5-Trichlorobenzene	14.59	180	108820	9.7392 ug/L	98
102) 1,2,4-Trichlorobenzene	15.13	180	98809	9.3541 ug/L	98
103) Naphthalene	15.28	128	212249	9.6256 ug/L	100
104) Hexachlorobutadiene	15.42	225	47082	9.4258 ug/L	98
105) 1,2,3-Trichlorobenzene	15.56	180	88481	9.4231 ug/L	98
106) 2-Methylnaphthalene	16.42	142	18239	2.1574 ug/L	92
107) 1-Methylnaphthalene	16.64	142	15177	2.1814 ug/L	95

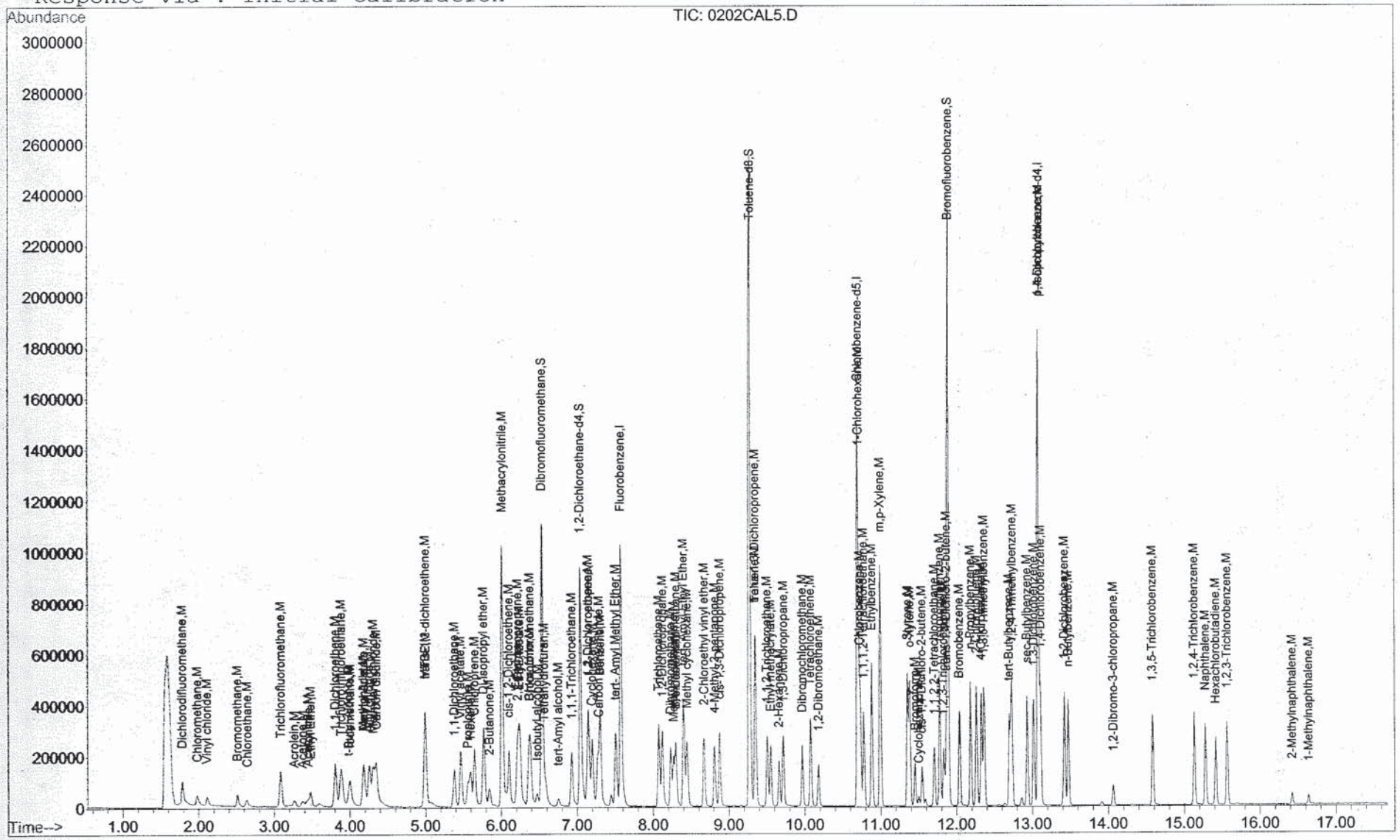
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\DATA\020215V6\0202CAL5.D
Acq On : 2 Feb 2015 12:29 pm
Sample : SEQ-CAL5
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:59 2015

Vial: 7
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:57:52 2015
Response via : Initial Calibration

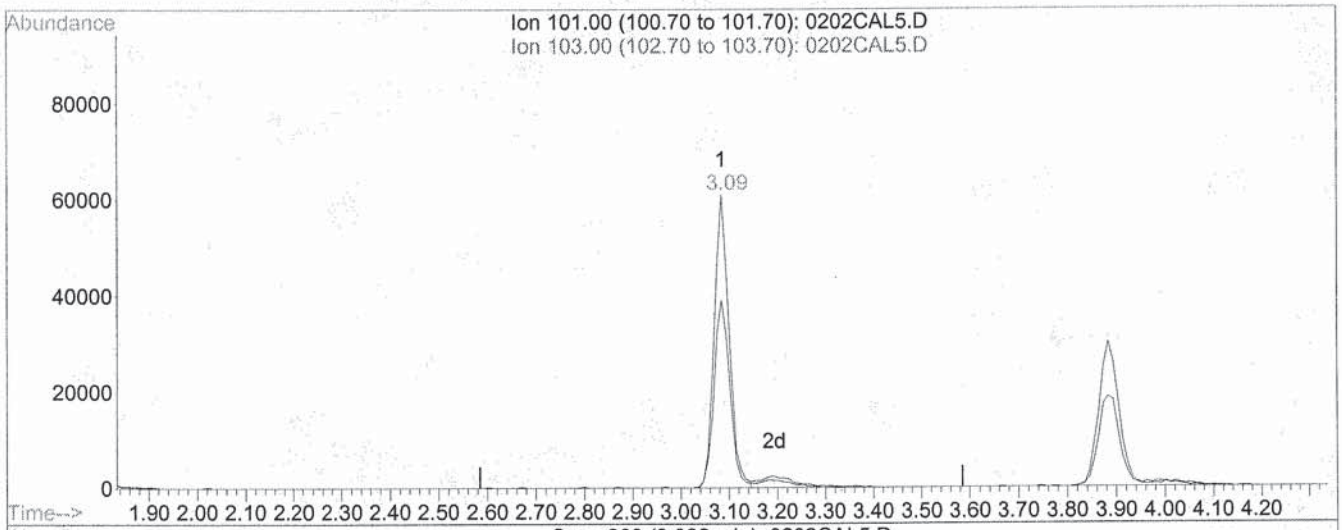


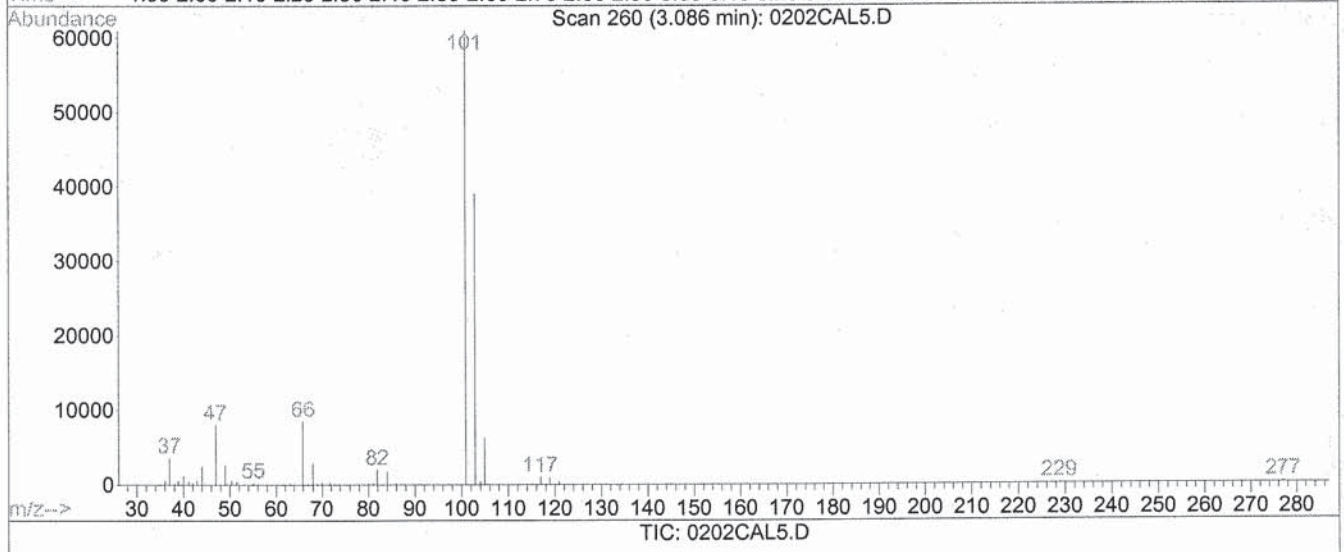
Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL5.D
Acq On : 2 Feb 2015 12:29 pm
Sample : SEQ-CAL5
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:16 2015

Vial: 7
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:57:52 2015
Response via : Multiple Level Calibration





TIC: 0202CAL5.D

(7) Trichlorofluoromethane (M)

3.09min 10.87ug/L

response 131960

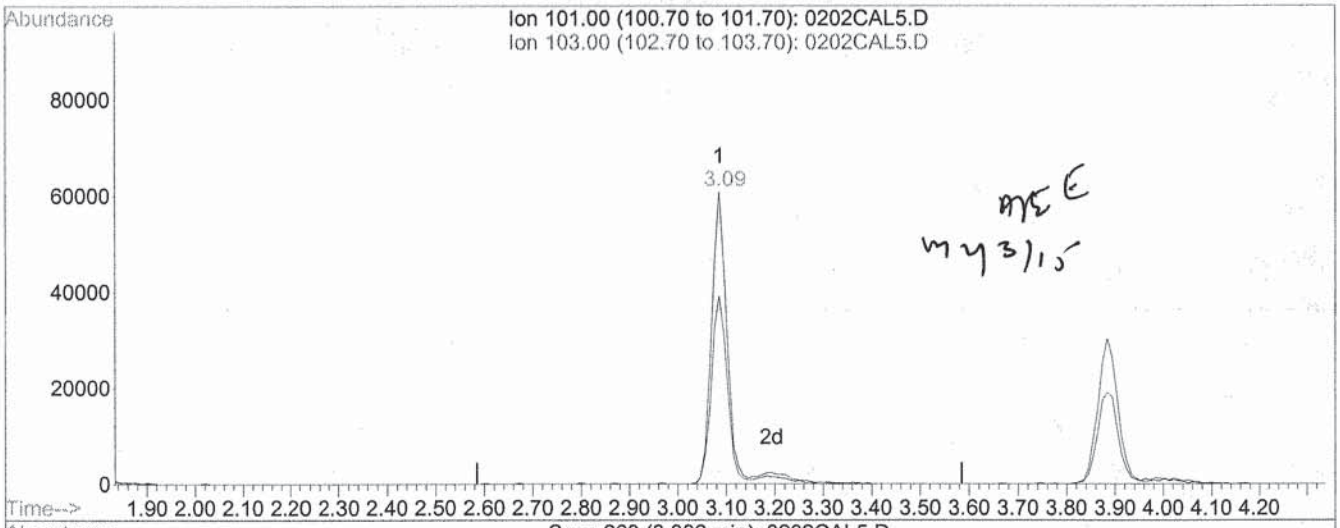
Ion	Exp%	Act%
101.00	100	100
103.00	66.20	68.77
0.00	0.00	0.00
0.00	0.00	0.00

0202CAL5.D 020215W6.M Tue Feb 03 06:59:07 2015

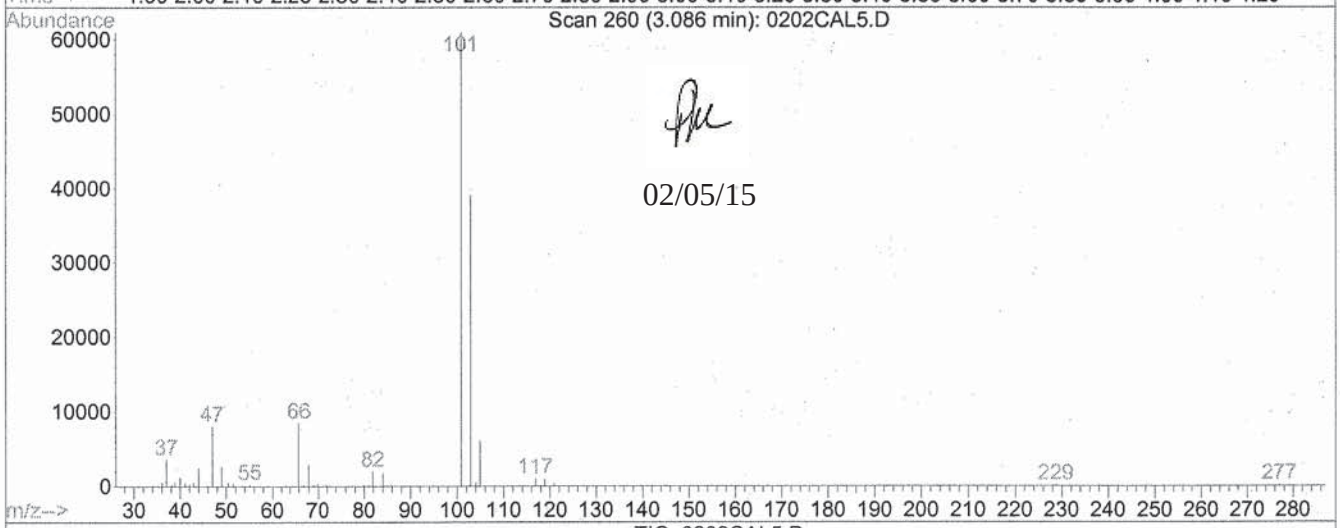
Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL5.D Vial: 7
Acq On : 2 Feb 2015 12:29 pm Operator:
Sample : SEQ-CAL5 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:59 2015 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:57:52 2015
Response via : Multiple Level Calibration



MTBE
m/z 3/15



TIC: 0202CAL5.D

02/05/15

(7) Trichlorofluoromethane (M)

3.09min 11.91ug/L m

response 144531

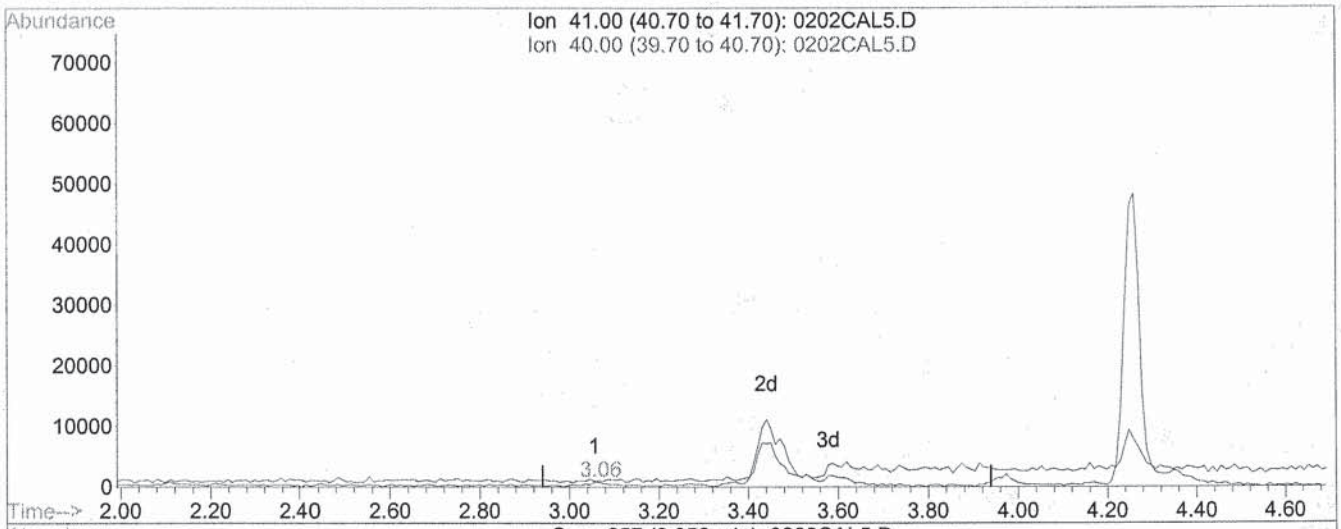
Ion	Exp%	Act%
101.00	100	100
103.00	66.20	62.79
0.00	0.00	0.00
0.00	0.00	0.00

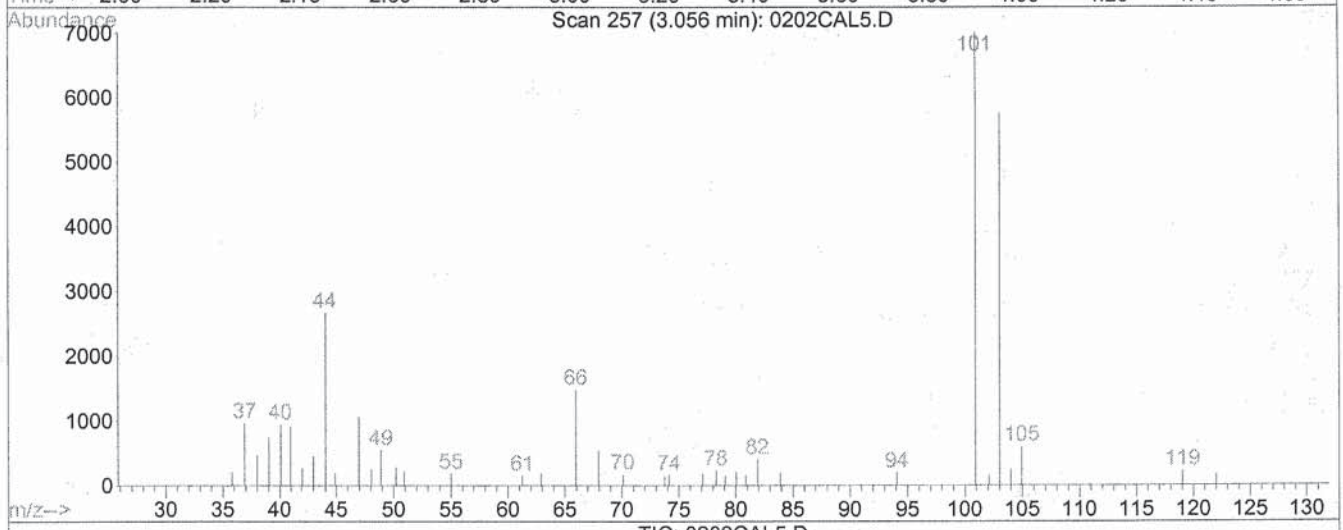
0202CAL5.D 020215W6.M Tue Feb 03 06:59:11 2015

Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL5.D Vial: 7
Acq On : 2 Feb 2015 12:29 pm Operator:
Sample : SEQ-CAL5 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:16 2015 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:16:00 2015
Response via : Multiple Level Calibration





TIC: 0202CAL5.D

(10) Acetonitrile (M)

3.06min 5.22ug/L

response 3858

Ion	Exp%	Act%
41.00	100	100
40.00	39.40	32.40
0.00	0.00	0.00
0.00	0.00	0.00

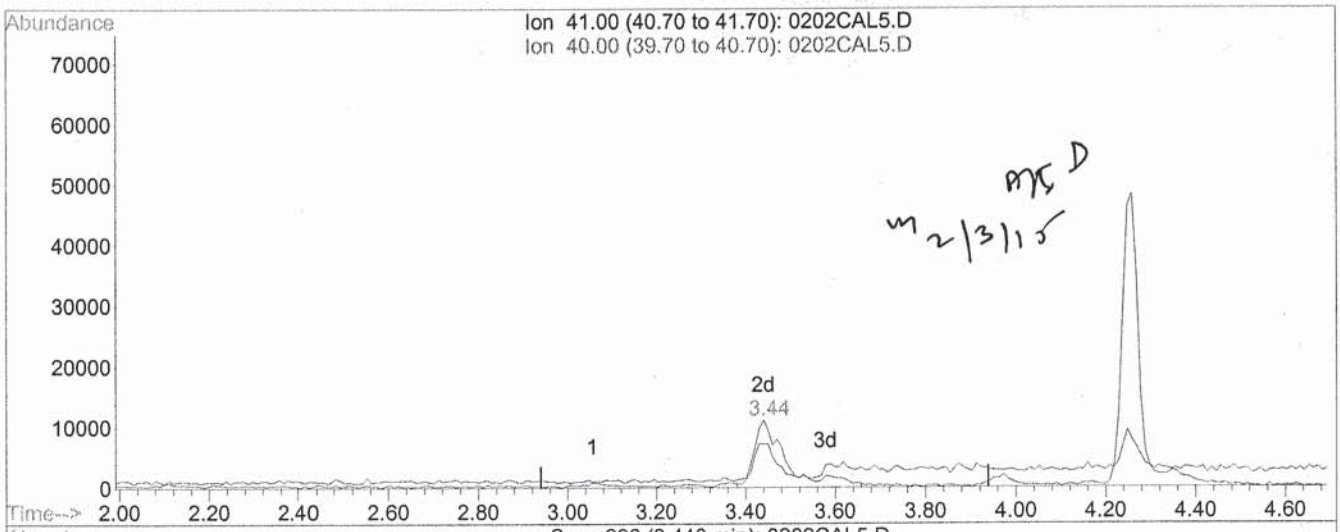
0202CAL5.D 020215W6.M Tue Feb 03 06:16:24 2015

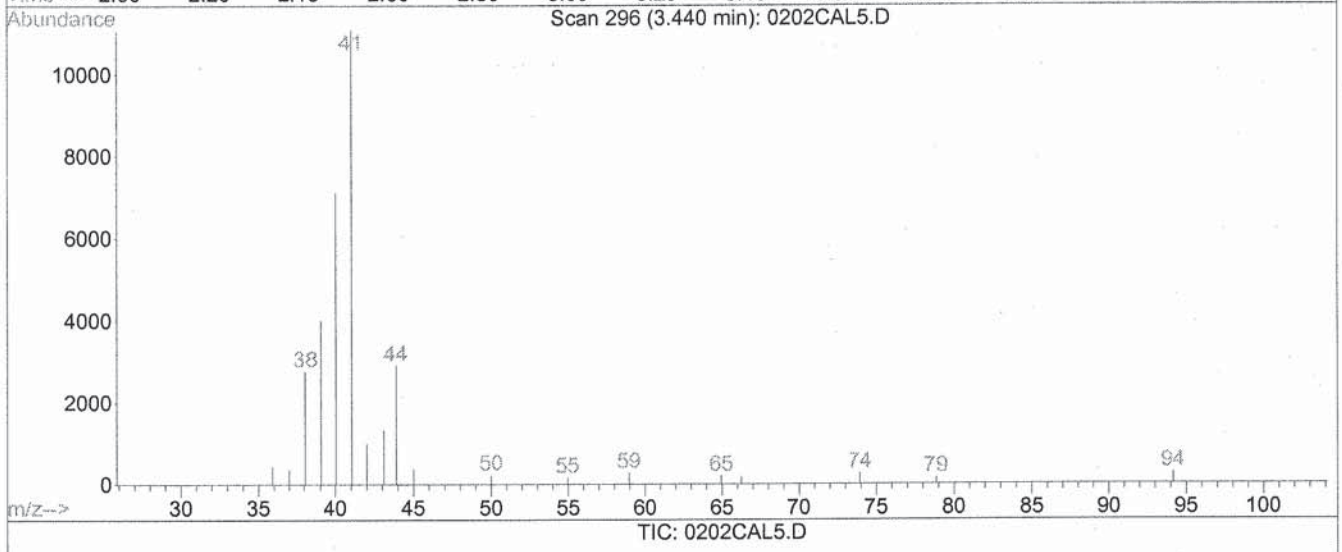
Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL5.D
Acq On : 2 Feb 2015 12:29 pm
Sample : SEQ-CAL5
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:16 2015

Vial: 7
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:16:00 2015
Response via : Multiple Level Calibration





TIC: 0202CAL5.D

(10) Acetonitrile (M)

3.44min 74.55ug/L m

response 55120

Ion	Exp%	Act%
41.00	100	100
40.00	39.40	2.27#
0.00	0.00	0.00
0.00	0.00	0.00

02/05/15

0202CAL5.D 020215W6.M Tue Feb 03 06:16:28 2015

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL6.D Vial: 8
Acq On : 2 Feb 2015 12:57 pm Operator:
Sample : SEQ-CAL6 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00

02/05/15

MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:15 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:14:42 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.57	96	804117	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.69	82	346821	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.08	152	311706	30.00	ug/L	0.00
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	777413	75.62	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 252.07%#			
42) 1,2-Dichloroethane-d4	7.05	102	137089	73.54	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 245.13%#			
61) Toluene-d8	9.28	98	1750508	68.39	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 227.97%#			
82) Bromofluorobenzene	11.89	95	755777	69.16	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 230.53%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.78	85	578346	70.4645	ug/L	99
3) Chloromethane	1.98	50	227219	55.6446	ug/L	99
4) Vinyl chloride	2.11	62	168936	56.4698	ug/L	99
5) Bromomethane	2.51	94	179961	56.1937	ug/L	99
6) Chloroethane	2.63	64	121508	53.5611	ug/L	96
7) Trichlorofluoromethane	3.09	101	704006	63.4239	ug/L	99
8) Acrolein	3.27	56	107057	249.9216	ug/L	96
9) Acetone	3.38	43	212654	106.6743	ug/L	98
10) Acetonitrile	3.44	41	277819m	341.9429	ug/L	
11) Ethyl Ether	3.48	59	148628	31.9220	ug/L	99
12) 1,1-Dichloroethene	3.81	96	386821	55.2874	ug/L	96
13) Trichlorotrifluoroethane	3.88	101	441133	56.7224	ug/L	100
14) Iodomethane	4.00	142	880008	65.2907	ug/L	100
15) t-Butyl Alcohol	3.97	59	147704	212.2868	ug/L	97
16) Methyl Acetate	4.17	43	301624	42.2665	ug/L	99
17) Acrylonitrile	4.19	53	759397	236.2621	ug/L	98
18) Allyl chloride	4.26	76	179945	49.8069	ug/L	87
19) Methylene chloride	4.31	84	449156	51.7214	ug/L	98
20) Carbon disulfide	4.35	76	1432695	54.8206	ug/L	99
21) trans-1,2-dichloroethene	5.00	96	388947	51.5230	ug/L	97
22) MTBE	5.00	73	1043934	53.0214	ug/L	99
23) 1,1-Dichloroethane	5.38	63	761549	51.8773	ug/L	100
24) Vinyl acetate	5.47	43	1881642	89.1467	ug/L	99
25) Propionitrile	5.56	54	493893	430.0942	ug/L	94
26) Hexane	5.60	57	279499	47.1436	ug/L	93
27) Chloroprene	5.65	53	737692	56.4128	ug/L	97
28) Di-isopropyl ether	5.78	45	1518715	44.7877	ug/L	99
29) 2-Butanone	5.85	43	463802	94.9141	ug/L	99
30) Methacrylonitrile	6.02	41	2440393	441.0372	ug/L	93
31) cis-1,2-Dichloroethene	6.11	96	428246	48.1946	ug/L	97
32) Ethyl Acetate	6.23	43	635188	55.4822	ug/L	100
33) 2,2-Dichloropropane	6.21	77	598480	52.4985	ug/L	98
34) ETBE	6.25	59	1273104	49.4550	ug/L	98
35) Chloroform	6.37	83	835709	54.1923	ug/L	99
36) Bromochloromethane	6.39	128	265820	50.9845	ug/L	99
37) Isobutyl alcohol	6.48	42	135163	730.9810	ug/L	91
39) Tetrahydrofuran	6.57	72	36682	47.7185	ug/L	90
40) tert-Amyl alcohol	6.75	59	114706	231.8935	ug/L	98
41) 1,1,1-Trichloroethane	6.93	97	744322	58.2560	ug/L	100

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

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL6.D Vial: 8
Acq On : 2 Feb 2015 12:57 pm Operator:
Sample : SEQ-CAL6 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:15 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:14:42 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloroethane	7.14	62	749351	57.7873	ug/L		100
44)	1,1-Dichloropropene	7.16	75	566001	52.5709	ug/L		98
45)	Cyclohexane	7.20	56	522265	46.7686	ug/L		99
46)	Carbon tetrachloride	7.27	117	678111	57.5691	ug/L		100
47)	Benzene	7.30	78	1431049	51.6728	ug/L		99
48)	tert- Amyl Methyl Ether	7.51	73	1077307	53.7280	ug/L		99
49)	Trichloroethene	8.07	95	472204	54.4434	ug/L		99
50)	1,2-Dichloropropane	8.12	63	401230	51.0840	ug/L		96
51)	Dibromomethane	8.23	93	377297	56.2710	ug/L		99
52)	Methyl methacrylate	8.27	41	402198	47.5704	ug/L		98
53)	1,4-Dioxane	8.29	88	83105	1148.9288	ug/L		99
54)	Bromodichloromethane	8.30	83	618418	56.7185	ug/L		100
55)	tert- Amyl Ethyl Ether	8.40	59	1095936	50.3917	ug/L		98
56)	Methyl cyclohexane	8.45	83	397772	51.5381	ug/L		97
57)	2-Chloroethyl vinyl ether	8.67	63	474572	119.0452	ug/L		99
58)	4-Methyl-2-pentanone	8.81	43	837757	92.0016	ug/L		98
59)	cis-1,3-Dichloropropene	8.88	75	650864	50.5329	ug/L		97
62)	trans-1,3-Dichloropropene	9.35	75	615483	51.2443	ug/L		96
63)	Toluene	9.34	92	780914	49.5453	ug/L		100
64)	1,1,2-Trichloroethane	9.50	83	302660	50.4515	ug/L		99
65)	Ethyl methacrylate	9.55	69	437512	46.8891	ug/L		100
66)	2-Hexanone	9.66	43	557809	89.9659	ug/L	#	92
67)	1,3-Dichloropropane	9.72	76	575526	51.5132	ug/L		100
68)	Dibromochloromethane	9.96	129	561885	54.0837	ug/L		100
69)	Tetrachloroethene	10.08	166	464968	51.3632	ug/L		99
70)	1,2-Dibromoethane	10.18	107	461535	53.6845	ug/L		100
71)	1-Chlorohexane	10.71	91	392999	50.0799	ug/L		99
72)	Chlorobenzene	10.73	112	966107	51.3108	ug/L		98
73)	1,1,1,2-Tetrachloroethane	10.77	131	426614	52.1433	ug/L		99
74)	Ethylbenzene	10.88	91	1622232	52.9106	ug/L		97
75)	m,p-Xylene	10.99	91	2376551	103.3134	ug/L		95
76)	Styrene	11.35	104	989644	51.7773	ug/L		96
77)	o-Xylene	11.38	91	1192650	50.9776	ug/L		97
78)	Bromoform	11.45	173	404292	54.7169	ug/L		99
79)	Cyclohexanone	11.50	55	70655	22.2951	ug/L		97
80)	Isopropylbenzene	11.78	105	1420947	52.2126	ug/L		98
81)	1,2,3-Trichloropropane	11.83	110	145570	53.0883	ug/L	#	51
84)	cis-1,4-Dichloro-2-butene	11.54	53	185927	56.7939	ug/L		95
85)	1,1,2,2-Tetrachloroethane	11.71	83	453784	53.5773	ug/L		99
86)	trans-1,4-Dichloro-2-buten	11.86	53	164029	53.9540	ug/L	#	55
87)	Bromobenzene	12.04	156	475828	51.9506	ug/L		100
88)	n-Propylbenzene	12.18	91	1611754	54.8628	ug/L		98
89)	2-Chlorotoluene	12.26	91	1037077	53.5847	ug/L		98
90)	4-Chlorotoluene	12.33	91	1244012	54.1800	ug/L		98
91)	1,3,5-Trimethylbenzene	12.36	105	1132713	54.0715	ug/L		97
92)	tert-Butylbenzene	12.70	119	959231	53.9762	ug/L		98
93)	1,2,4-Trimethylbenzene	12.73	105	1203449	55.1420	ug/L		98
94)	sec-Butylbenzene	12.93	105	1218690	54.5915	ug/L		100
95)	1,3-Dichlorobenzene	13.02	146	750172	52.3667	ug/L		100
96)	1,4-Dichlorobenzene	13.11	146	760737	51.0332	ug/L		99
97)	p-Isopropyltoluene	13.07	119	973412	53.9816	ug/L		99
98)	1,2-Dichlorobenzene	13.42	146	735573	51.8139	ug/L		99
99)	n-Butylbenzene	13.47	91	935896	55.5589	ug/L		99

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

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL6.D Vial: 8
Acq On : 2 Feb 2015 12:57 pm Operator:
Sample : SEQ-CAL6 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:15 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:14:42 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
100) 1,2-Dibromo-3-chloropropan	14.07	157	104677	56.7210 ug/L	95
101) 1,3,5-Trichlorobenzene	14.59	180	534985	52.9327 ug/L	99
102) 1,2,4-Trichlorobenzene	15.13	180	513373	53.8436 ug/L	99
103) Naphthalene	15.28	128	1086903	54.5170 ug/L	100
104) Hexachlorobutadiene	15.42	225	229674	51.2049 ug/L	97
105) 1,2,3-Trichlorobenzene	15.56	180	443481	52.1586 ug/L	98
106) 2-Methylnaphthalene	16.42	142	99477	13.1207 ug/L	96
107) 1-Methylnaphthalene	16.64	142	80302	12.8382 ug/L	98

(#) = qualifier out of range (m) = manual integration
0202CAL6.D 020215W6.M Tue Feb 03 06:15:52 2015 Page 3

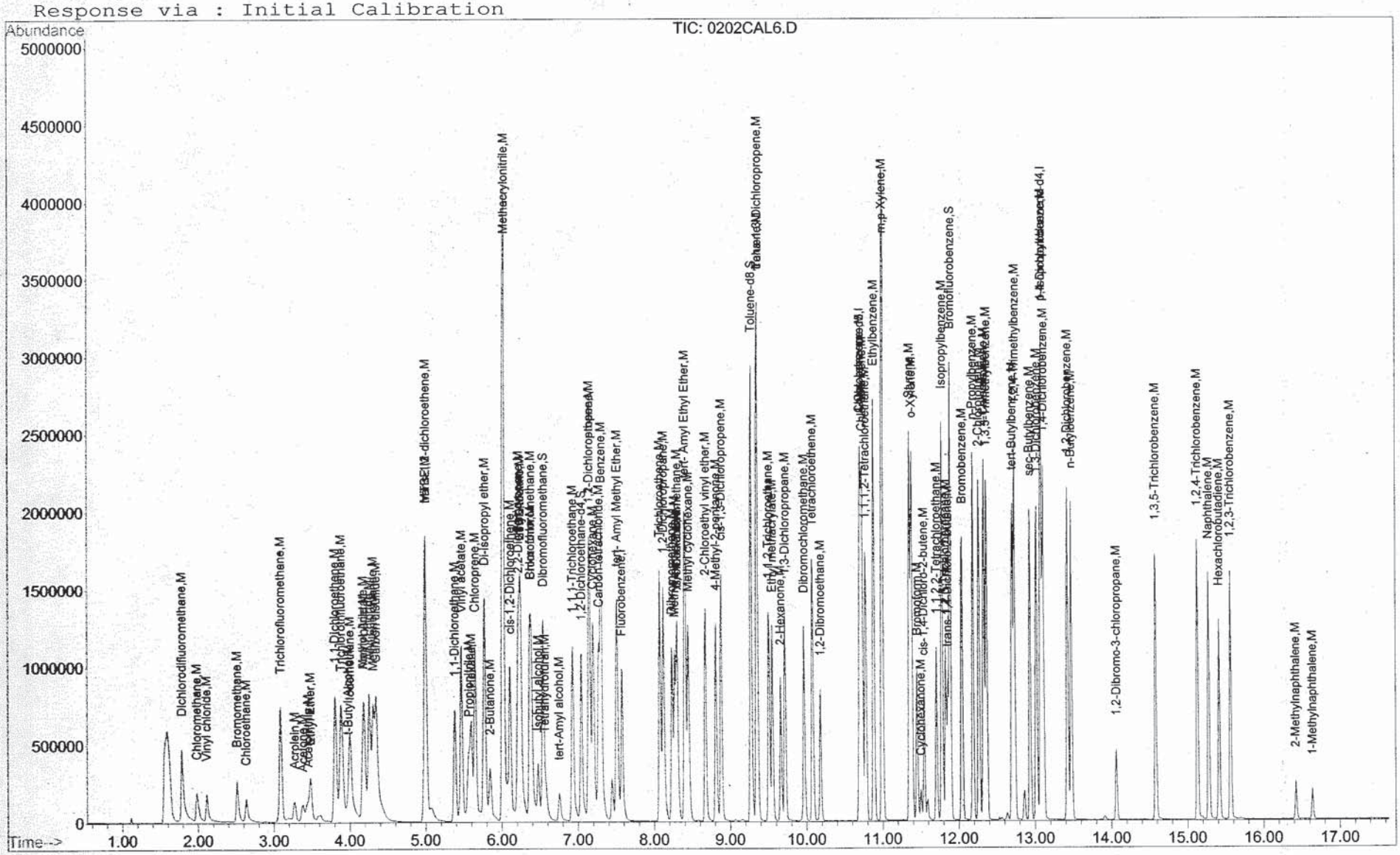
Quantitation Report

Data File : D:\DATA\020215V6\0202CAL6.D
Acq On : 2 Feb 2015 12:57 pm
Sample : SEQ-CAL6
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:15 2015

Vial: 8
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:14:42 2015
Response via : Initial Calibration

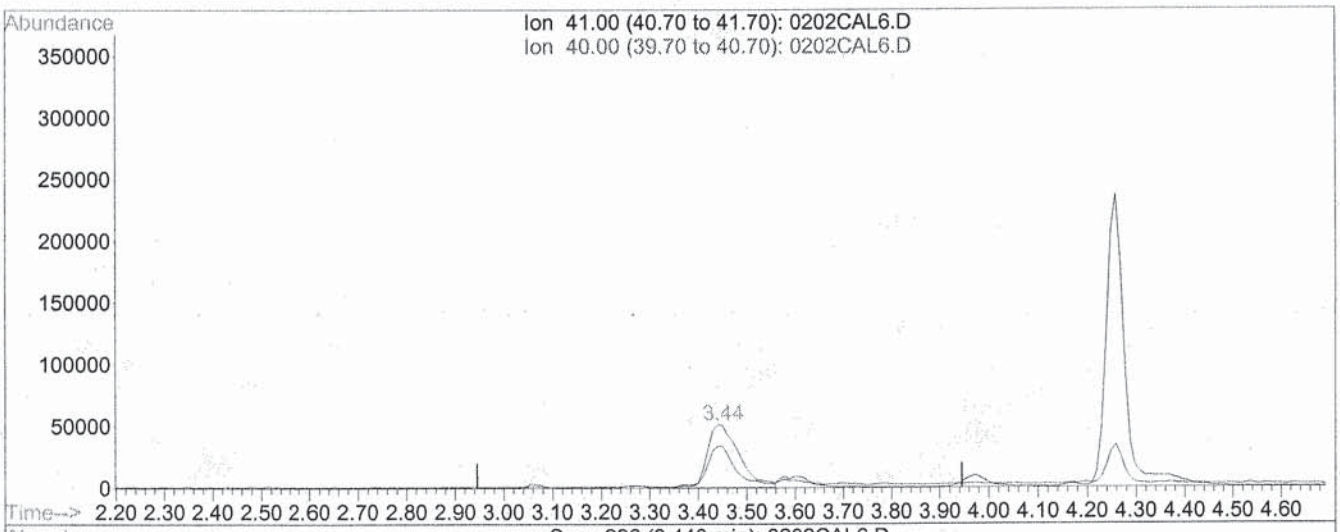


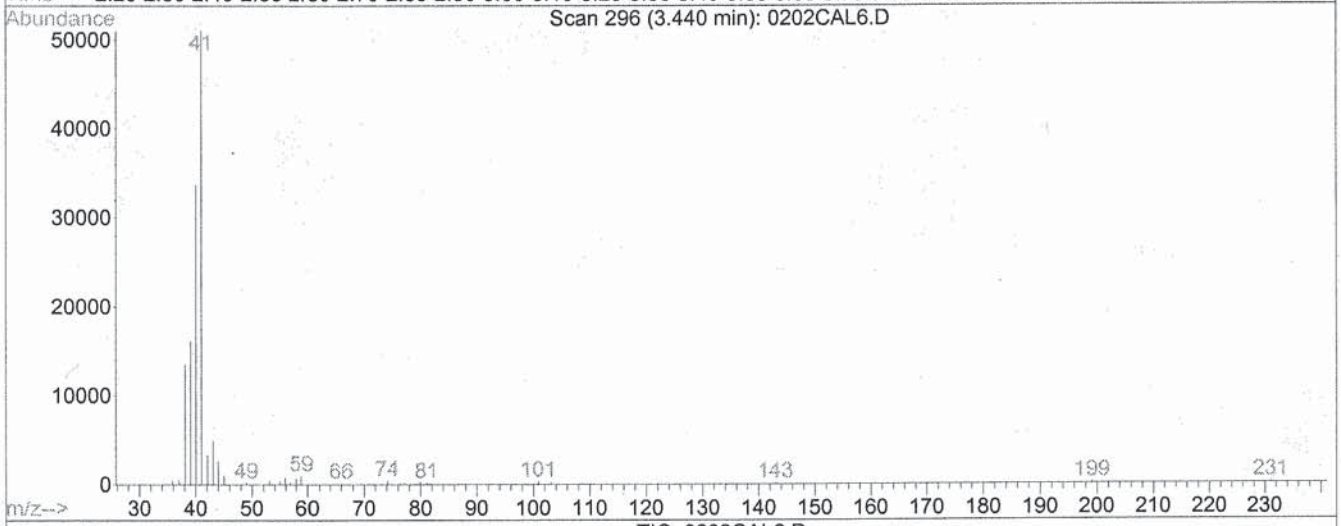
Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL6.D
Acq On : 2 Feb 2015 12:57 pm
Sample : SEQ-CAL6
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:14 2015

Vial: 8
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:14:42 2015
Response via : Multiple Level Calibration





TIC: 0202CAL6.D

(10) Acetonitrile (M)

3.44min 290.04ug/L

response 235653

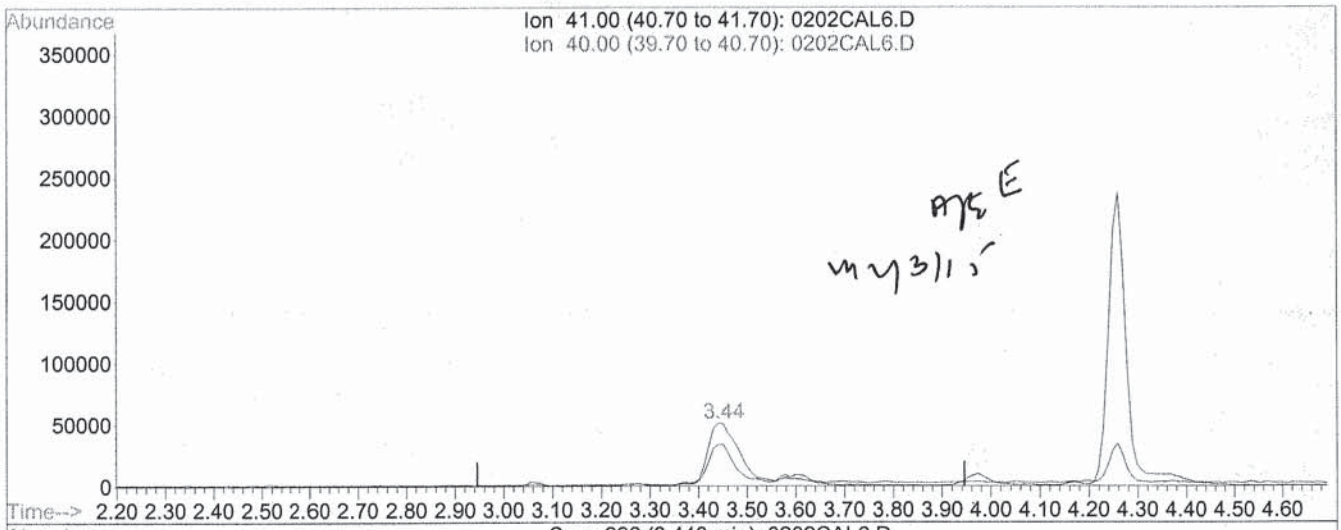
Ion	Exp%	Act%
41.00	100	100
40.00	39.40	56.48#
0.00	0.00	0.00
0.00	0.00	0.00

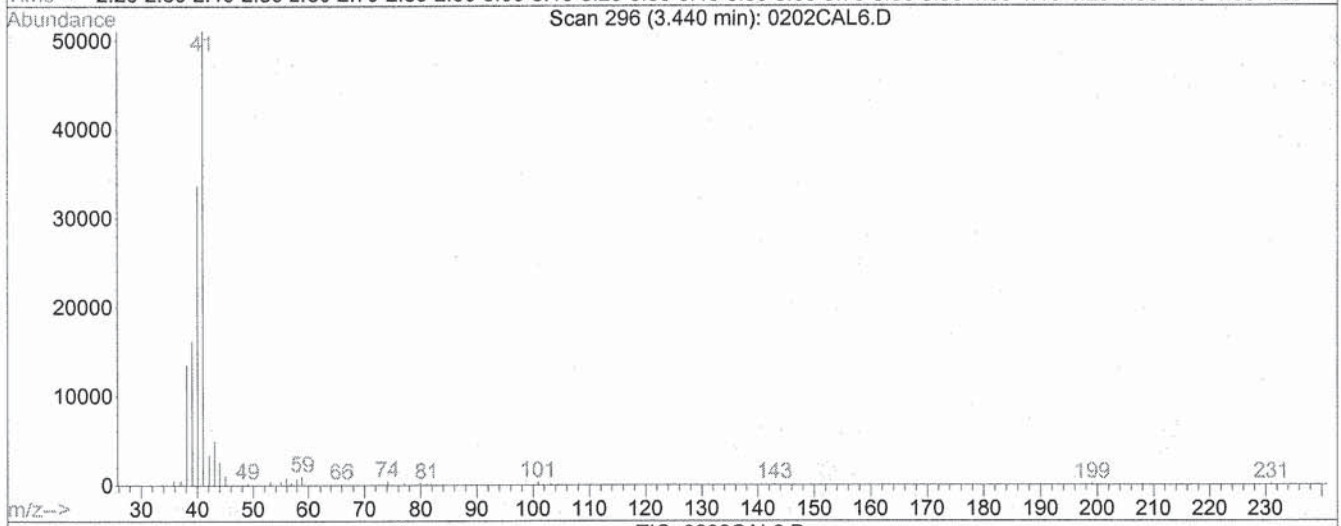
0202CAL6.D 020215W6.M Tue Feb 03 06:15:03 2015

Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL6.D Vial: 8
Acq On : 2 Feb 2015 12:57 pm Operator:
Sample : SEQ-CAL6 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:15 2015 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:14:42 2015
Response via : Multiple Level Calibration





TIC: 0202CAL6.D

(10) Acetonitrile (M)

3.44min 341.94ug/L m

response 277819

Ion	Exp%	Act%
41.00	100	100
40.00	39.40	47.91#
0.00	0.00	0.00
0.00	0.00	0.00

02/05/15

0202CAL6.D 020215W6.M Tue Feb 03 06:15:06 2015

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL7.D Vial: 9
Acq On : 2 Feb 2015 1:24 pm Operator:
Sample : SEQ-CAL7 ALSO CCV1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:13 2015 Quant Results File: 020215W6.RES

02/05/15

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:13:18 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.58	96	801093	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.70	82	340436	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.09	152	293475	30.00	ug/L	0.00
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	314382	30.99	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 103.30%			
42) 1,2-Dichloroethane-d4	7.04	102	54960	29.64	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 98.80%			
61) Toluene-d8	9.27	98	777208	30.80	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 102.67%			
82) Bromofluorobenzene	11.88	95	343506	32.02	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 106.73%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.78	85	1173178	151.2474	ug/L	100
3) Chloromethane	1.98	50	488262	121.6843	ug/L	99
4) Vinyl chloride	2.12	62	355860	124.1562	ug/L	100
5) Bromomethane	2.52	94	400629	128.2589	ug/L	100
6) Chloroethane	2.64	64	255164	115.1217	ug/L	98
7) Trichlorofluoromethane	3.09	101	1419941	133.3291	ug/L	99
8) Acrolein	3.27	56	224516	525.7265	ug/L	99
9) Acetone	3.38	43	438033	224.1947	ug/L	99
10) Acetonitrile	3.45	41	598524m	662.6971	ug/L	
11) Ethyl Ether	3.49	59	300566	58.9372	ug/L	98
12) 1,1-Dichloroethene	3.81	96	721467	103.0268	ug/L	93
13) Trichlorotrifluoroethane	3.89	101	848739	109.6838	ug/L	91
14) Iodomethane	4.01	142	1742238	128.2559	ug/L	98
15) t-Butyl Alcohol	3.97	59	327753	464.6621	ug/L	99
16) Methyl Acetate	4.18	43	585979	79.9719	ug/L	98
17) Acrylonitrile	4.19	53	1417994	431.7154	ug/L	99
18) Allyl chloride	4.26	76	349004	96.4103	ug/L	85
19) Methylene chloride	4.31	84	831787	95.4018	ug/L	95
20) Carbon disulfide	4.35	76	2709518	104.1149	ug/L	99
21) trans-1,2-dichloroethene	4.99	96	717074	94.7890	ug/L	91
22) MTBE	5.00	73	2045538	104.3005	ug/L	99
23) 1,1-Dichloroethane	5.39	63	1480411	100.0661	ug/L	98
24) Vinyl acetate	5.47	43	3773370	173.4982	ug/L	97
25) Propionitrile	5.57	54	1034375	886.8193	ug/L	99
26) Hexane	5.60	57	489886	81.0230	ug/L	89
27) Chloroprene	5.65	53	1425716	110.9331	ug/L	97
28) Di-isopropyl ether	5.77	45	2869865	82.5330	ug/L	98
29) 2-Butanone	5.85	43	906477	181.7315	ug/L	98
30) Methacrylonitrile	6.03	41	4477084	797.8809	ug/L	88
31) cis-1,2-Dichloroethene	6.11	96	793125	88.7180	ug/L	94
32) Ethyl Acetate	6.24	43	1200278	105.9339	ug/L	99
33) 2,2-Dichloropropane	6.22	77	1167913	103.1906	ug/L	97
34) ETBE	6.25	59	2420151	93.1776	ug/L	97
35) Chloroform	6.37	83	1588106	103.6475	ug/L	100
36) Bromochloromethane	6.39	128	503938	96.5478	ug/L	98
37) Isobutyl alcohol	6.48	42	275135	1434.8017	ug/L	98
39) Tetrahydrofuran	6.58	72	72394	92.8761	ug/L	95
40) tert-Amyl alcohol	6.76	59	253255	506.9556	ug/L	98
41) 1,1,1-Trichloroethane	6.94	97	1486808	118.3740	ug/L	99

(#) = qualifier out of range (m) = manual integration
0202CAL7.D 020215W6.M Tue Feb 03 06:14:31 2015 Page 1

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL7.D Vial: 9
Acq On : 2 Feb 2015 1:24 pm Operator:
Sample : SEQ-CAL7 ALSO CCV1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:13 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:13:18 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloroethane	7.14	62	1484727	116.8273	ug/L	#	98
44)	1,1-Dichloropropene	7.15	75	1068258	99.3613	ug/L		99
45)	Cyclohexane	7.20	56	980649	86.1999	ug/L		100
46)	Carbon tetrachloride	7.27	117	1400846	121.2230	ug/L		99
47)	Benzene	7.31	78	2701148	96.4608	ug/L		100
48)	tert- Amyl Methyl Ether	7.51	73	2052782	101.8499	ug/L		99
49)	Trichloroethene	8.08	95	891448	103.3041	ug/L		100
50)	1,2-Dichloropropane	8.13	63	747011	93.8596	ug/L		90
51)	Dibromomethane	8.24	93	732099	110.2418	ug/L		97
52)	Methyl methacrylate	8.27	41	822589	96.8370	ug/L		98
53)	1,4-Dioxane	8.29	88	158253	2195.0780	ug/L		96
54)	Bromodichloromethane	8.31	83	1216407	112.6756	ug/L		99
55)	tert- Amyl Ethyl Ether	8.40	59	2134448	97.3544	ug/L		98
56)	Methyl cyclohexane	8.45	83	754237	97.1001	ug/L		97
57)	2-Chloroethyl vinyl ether	8.67	63	894590	226.7815	ug/L		99
58)	4-Methyl-2-pentanone	8.81	43	1670207	180.6651	ug/L		97
59)	cis-1,3-Dichloropropene	8.88	75	1262705	97.6886	ug/L		90
62)	trans-1,3-Dichloropropene	9.36	75	1202897	101.6450	ug/L		88
63)	Toluene	9.35	92	1408335	89.7965	ug/L		97
64)	1,1,2-Trichloroethane	9.51	83	565906	94.4485	ug/L		99
65)	Ethyl methacrylate	9.56	69	855225	91.2435	ug/L		91
66)	2-Hexanone	9.67	43	1118287	179.1497	ug/L		96
67)	1,3-Dichloropropane	9.71	76	1071353	96.1521	ug/L		98
68)	Dibromochloromethane	9.97	129	1147980	111.7936	ug/L		100
69)	Tetrachloroethene	10.08	166	883722	98.0487	ug/L		98
70)	1,2-Dibromoethane	10.18	107	897581	105.4973	ug/L		99
71)	1-Chlorohexane	10.71	91	726669	92.9526	ug/L		92
72)	Chlorobenzene	10.73	112	1753425	93.5287	ug/L		99
73)	1,1,1,2-Tetrachloroethane	10.78	131	836219	102.7627	ug/L		98
74)	Ethylbenzene	10.89	91	3071864	100.8378	ug/L		96
75)	m,p-Xylene	11.00	91	4387058	192.9713	ug/L		93
76)	Styrene	11.35	104	1793337	94.2507	ug/L		95
77)	o-Xylene	11.38	91	2240290	96.8206	ug/L		95
78)	Bromoform	11.45	173	833284	113.5096	ug/L		99
79)	Cyclohexanone	11.50	55	132631	33.8348	ug/L		98
80)	Isopropylbenzene	11.78	105	2702929	100.1444	ug/L		97
81)	1,2,3-Trichloropropane	11.83	110	284589	105.5401	ug/L		86
84)	cis-1,4-Dichloro-2-butene	11.55	53	378871	124.5194	ug/L		98
85)	1,1,2,2-Tetrachloroethane	11.71	83	859343	106.1782	ug/L		99
86)	trans-1,4-Dichloro-2-buten	11.86	53	338180	118.9489	ug/L		77
87)	Bromobenzene	12.04	156	907163	103.8806	ug/L		98
88)	n-Propylbenzene	12.19	91	3058003	109.5646	ug/L		98
89)	2-Chlorotoluene	12.27	91	1989741	108.6834	ug/L		98
90)	4-Chlorotoluene	12.33	91	2376751	109.6455	ug/L		97
91)	1,3,5-Trimethylbenzene	12.37	105	2146731	108.5177	ug/L		96
92)	tert-Butylbenzene	12.70	119	1781796	106.0050	ug/L		97
93)	1,2,4-Trimethylbenzene	12.73	105	2230030	108.4900	ug/L		97
94)	sec-Butylbenzene	12.94	105	2255574	106.5494	ug/L		99
95)	1,3-Dichlorobenzene	13.02	146	1403682	103.1995	ug/L		99
96)	1,4-Dichlorobenzene	13.11	146	1414435	99.9545	ug/L		99
97)	p-Isopropyltoluene	13.08	119	1795328	105.2495	ug/L		99
98)	1,2-Dichlorobenzene	13.42	146	1392106	103.1208	ug/L		99
99)	n-Butylbenzene	13.47	91	1744197	109.7203	ug/L		97

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

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL7.D Vial: 9
Acq On : 2 Feb 2015 1:24 pm Operator:
Sample : SEQ-CAL7 ALSO CCV1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:13 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:13:18 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

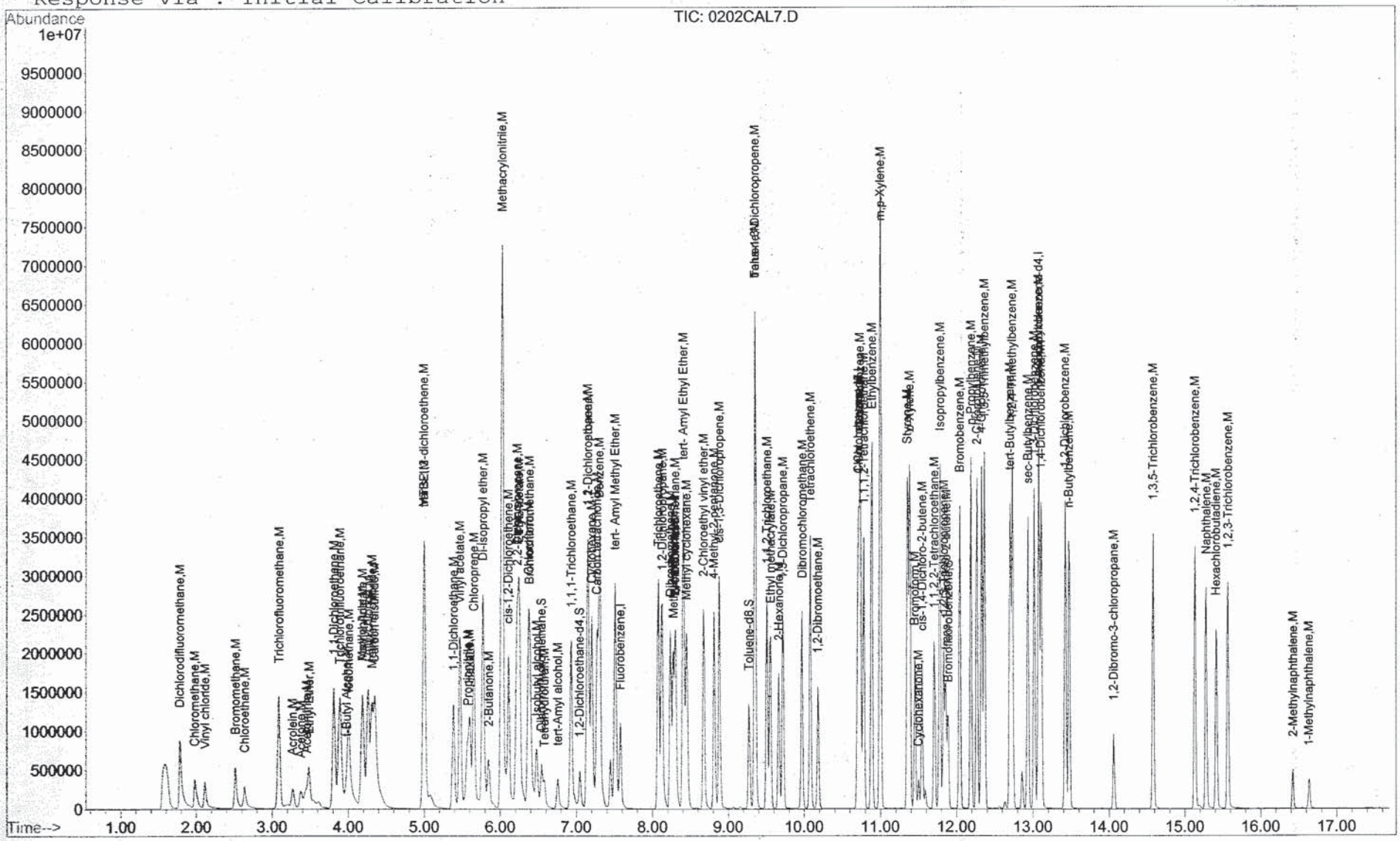
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
100) 1,2-Dibromo-3-chloropropan	14.06	157	207612	118.2542	ug/L	99
101) 1,3,5-Trichlorobenzene	14.58	180	1014498	105.8102	ug/L	100
102) 1,2,4-Trichlorobenzene	15.14	180	980191	108.3463	ug/L	100
103) Naphthalene	15.28	128	2109360	111.1861	ug/L	100
104) Hexachlorobutadiene	15.42	225	465161	110.1341	ug/L	100
105) 1,2,3-Trichlorobenzene	15.57	180	867398	107.3965	ug/L	100
106) 2-Methylnaphthalene	16.43	142	216272	30.2300	ug/L	98
107) 1-Methylnaphthalene	16.64	142	172867	29.2490	ug/L	100

(#) = qualifier out of range (m) = manual integration
0202CAL7.D 020215W6.M Tue Feb 03 06:14:32 2015 Page 3

Quantitation Report

Data File : D:\DATA\020215V6\0202CAL7.D Vial: 9
Acq On : 2 Feb 2015 1:24 pm Operator:
Sample : SEQ-CAL7 ALSO CCV1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:13 2015 Quant Results File: 020215W6.RES

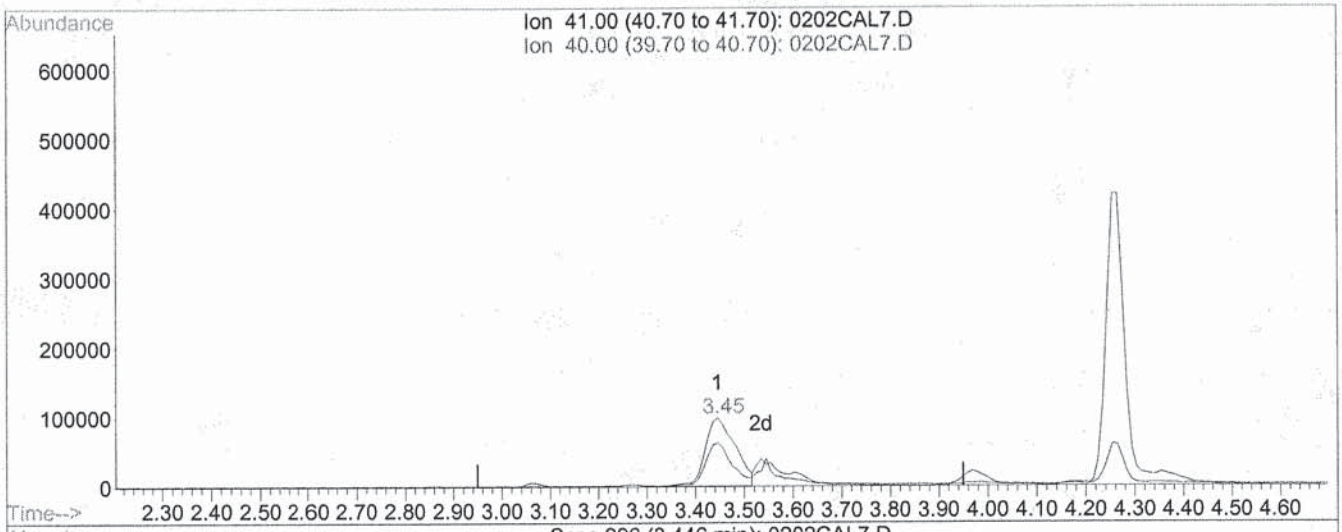
Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:13:18 2015
Response via : Initial Calibration

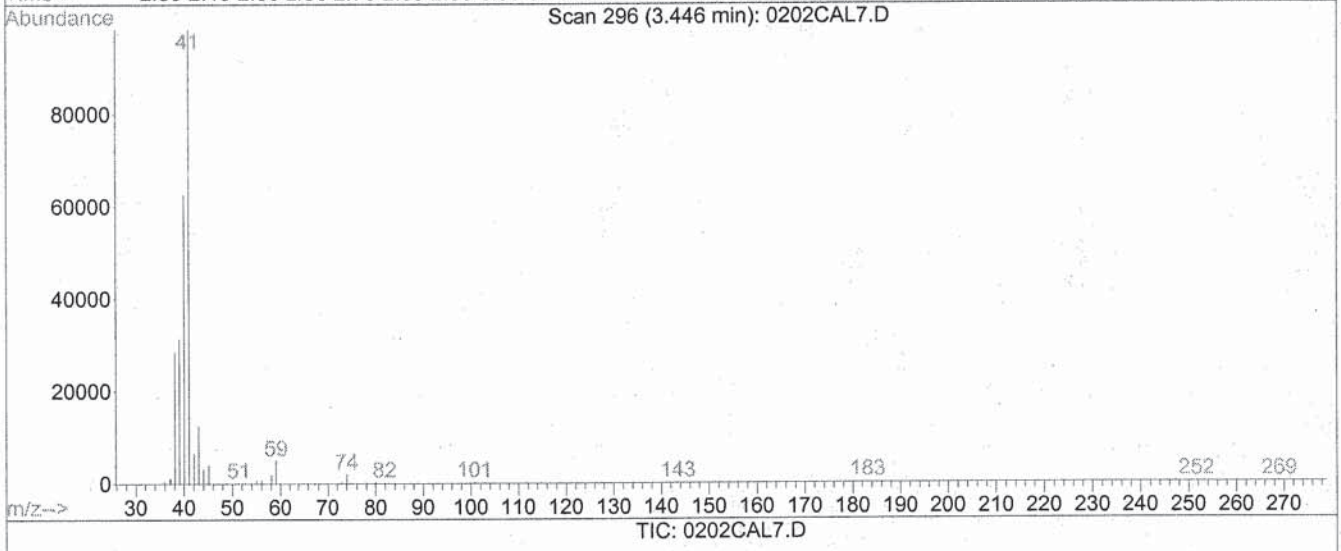


Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL7.D Vial: 9
Acq On : 2 Feb 2015 1:24 pm Operator:
Sample : SEQ-CAL7 ALSO CCV1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:13 2015 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:13:18 2015
Response via : Multiple Level Calibration





TIC: 0202CAL7.D

(10) Acetonitrile (M)

3.45min 466.90ug/L

response 421689

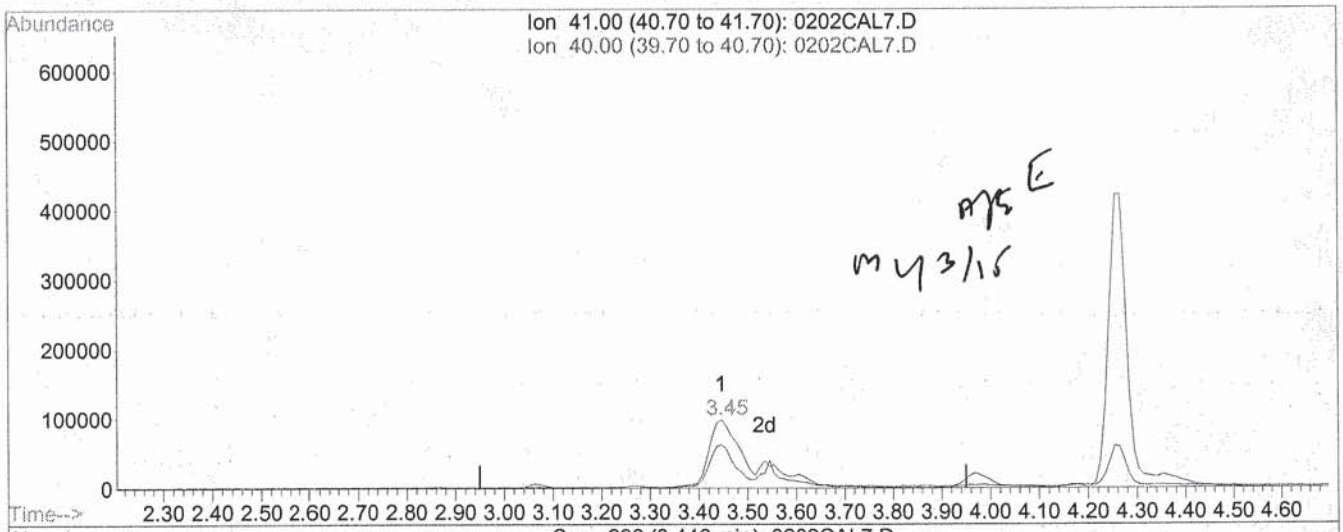
Ion	Exp%	Act%
41.00	100	100
40.00	43.10	55.95#
0.00	0.00	0.00
0.00	0.00	0.00

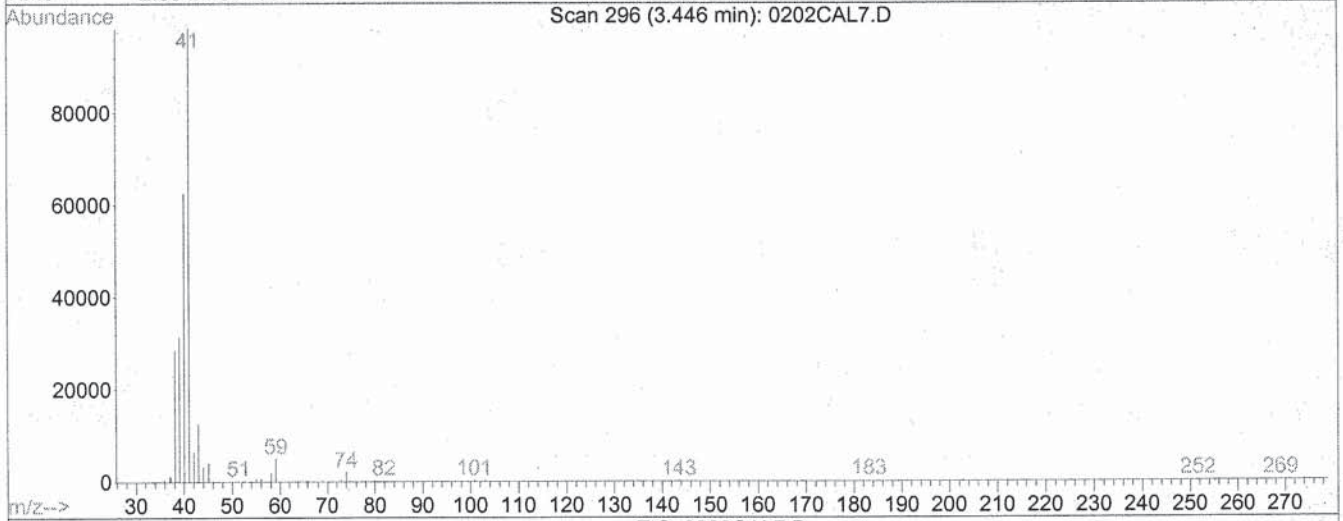
0202CAL7.D 020215W6.M Tue Feb 03 06:13:44 2015

Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL7.D Vial: 9
Acq On : 2 Feb 2015 1:24 pm Operator:
Sample : SEQ-CAL7 ALSO CCV1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:13 2015 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:13:18 2015
Response via : Multiple Level Calibration





TIC: 0202CAL7.D

(10) Acetonitrile (M)

3.45min 662.70ug/L m

response 598524

Ion	Exp%	Act%
41.00	100	100
40.00	43.10	39.42
0.00	0.00	0.00
0.00	0.00	0.00

02/05/15

0202CAL7.D 020215W6.M Tue Feb 03 06:13:48 2015

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL8.D Vial: 10
Acq On : 2 Feb 2015 1:52 pm Operator:
Sample : SEQ-CAL8 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:12 2015 Quant Results File: 020215W6.RES

02/05/15

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:12:07 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

mm3/15

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.58	96	797570	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.69	82	328371	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.08	152	271531	30.00	ug/L	0.00
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	313618	31.05	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 103.50%			
42) 1,2-Dichloroethane-d4	7.05	102	56961	30.85	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 102.83%			
61) Toluene-d8	9.27	98	773553	31.79	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 105.97%			
82) Bromofluorobenzene	11.89	95	338448	32.71	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 109.03%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.78	85	1864389	241.4208	ug/L	100
3) Chloromethane	1.98	50	742106	185.7640	ug/L	99
4) Vinyl chloride	2.11	62	601761	210.8762	ug/L	100
5) Bromomethane	2.51	94	652967	209.9667	ug/L	98
6) Chloroethane	2.63	64	398776	180.7094	ug/L	100
7) Trichlorofluoromethane	3.09	101	2315500	218.3803	ug/L	99
8) Acrolein	3.27	56	354690	834.2105	ug/L	97
9) Acetone	3.38	43	709934	364.9646	ug/L	99
10) Acetonitrile	3.45	41	983605m	1092.9532	ug/L	
11) Ethyl Ether	3.48	59	502897	99.0474	ug/L	98
12) 1,1-Dichloroethene	3.81	96	1128879	161.9181	ug/L	97
13) Trichlorotrifluoroethane	3.89	101	1347989	174.9721	ug/L	91
14) Iodomethane	4.00	142	2805594	207.4477	ug/L	99
15) t-Butyl Alcohol	3.97	59	567510	808.1243	ug/L	98
16) Methyl Acetate	4.17	43	955932	131.0377	ug/L	100
17) Acrylonitrile	4.19	53	2259457	690.9416	ug/L	98
18) Allyl chloride	4.26	76	523710	145.3108	ug/L	89
19) Methylene chloride	4.31	84	1291482	148.7808	ug/L	98
20) Carbon disulfide	4.35	76	4269168	164.7701	ug/L	100
21) trans-1,2-dichloroethene	5.00	96	1051034	139.5484	ug/L	97
22) MTBE	5.00	73	3181518	162.9399	ug/L	100
23) 1,1-Dichloroethane	5.38	63	2350798	159.6004	ug/L	99
24) Vinyl acetate	5.47	43	6459156	298.3015	ug/L	99
25) Propionitrile	5.57	54	1620290	1395.2885	ug/L	98
26) Hexane	5.60	57	760888	126.4002	ug/L	90
27) Chloroprene	5.66	53	2287488	178.7727	ug/L	98
28) Di-isopropyl ether	5.78	45	4523380	130.6603	ug/L	99
29) 2-Butanone	5.85	43	1447549	291.4881	ug/L	99
30) Methacrylonitrile	6.03	41	6899210	1234.9698	ug/L	94
31) cis-1,2-Dichloroethene	6.11	96	1204227	135.2983	ug/L	97
32) Ethyl Acetate	6.23	43	1901148	168.5323	ug/L	99
33) 2,2-Dichloropropane	6.22	77	1893606	168.0480	ug/L	99
34) ETBE	6.25	59	3809586	147.3198	ug/L	99
35) Chloroform	6.37	83	2486071	162.9697	ug/L	100
36) Bromochloromethane	6.40	128	761600	146.5569	ug/L	100
37) Isobutyl alcohol	6.48	42	483834	2534.2913	ug/L	95
39) Tetrahydrofuran	6.57	72	114485	147.5245	ug/L	91
40) tert-Amyl alcohol	6.75	59	419207	842.8583	ug/L	99
41) 1,1,1-Trichloroethane	6.93	97	2389352	191.0715	ug/L	100

(#) = qualifier out of range (m) = manual integration
0202CAL8.D 020215W6.M Tue Feb 03 06:13:09 2015 Page 1

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL8.D Vial: 10
Acq On : 2 Feb 2015 1:52 pm Operator:
Sample : SEQ-CAL8 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:12 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:12:07 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43)	1,2-Dichloroethane	7.14	62	2434040	192.3709	ug/L	99
44)	1,1-Dichloropropene	7.16	75	1611936	150.5923	ug/L	99
45)	Cyclohexane	7.21	56	1480071	130.6743	ug/L	99
46)	Carbon tetrachloride	7.27	117	2291329	199.1572	ug/L	99
47)	Benzene	7.30	78	3989071	143.0831	ug/L	100
48)	tert- Amyl Methyl Ether	7.51	73	3127465	155.8563	ug/L	100
49)	Trichloroethene	8.07	95	1359016	158.1832	ug/L	99
50)	1,2-Dichloropropane	8.12	63	1118177	141.1160	ug/L	94
51)	Dibromomethane	8.23	93	1140414	172.4858	ug/L	98
52)	Methyl methacrylate	8.27	41	1285586	152.0106	ug/L	99
53)	1,4-Dioxane	8.29	88	237590	3310.0938	ug/L	98
54)	Bromodichloromethane	8.30	83	1943282	180.8010	ug/L	100
55)	tert- Amyl Ethyl Ether	8.41	59	3230161	147.9818	ug/L	98
56)	Methyl cyclohexane	8.45	83	1131602	146.3254	ug/L	95
57)	2-Chloroethyl vinyl ether	8.67	63	1299444	330.8683	ug/L	99
58)	4-Methyl-2-pentanone	8.81	43	2594198	281.8520	ug/L	98
59)	cis-1,3-Dichloropropene	8.88	75	1911513	148.5366	ug/L	95
62)	trans-1,3-Dichloropropene	9.35	75	1810140	158.5771	ug/L	95
63)	Toluene	9.34	92	1986899	131.3409	ug/L	98
64)	1,1,2-Trichloroethane	9.51	83	838661	145.1135	ug/L	99
65)	Ethyl methacrylate	9.55	69	1269562	140.4255	ug/L	97
66)	2-Hexanone	9.66	43	1728182	287.0272	ug/L	98
67)	1,3-Dichloropropane	9.72	76	1610895	149.8870	ug/L	99
68)	Dibromochloromethane	9.96	129	1803048	182.0374	ug/L	100
69)	Tetrachloroethene	10.08	166	1345891	154.8128	ug/L	99
70)	1,2-Dibromoethane	10.18	107	1381975	168.3987	ug/L	100
71)	1-Chlorohexane	10.71	91	1034295	137.1640	ug/L	97
72)	Chlorobenzene	10.73	112	2573082	142.2925	ug/L	99
73)	1,1,1,2-Tetrachloroethane	10.78	131	1317833	167.8984	ug/L	99
74)	Ethylbenzene	10.88	91	4639014	157.8765	ug/L	97
75)	m,p-Xylene	11.00	91	6602068	301.0717	ug/L	97
76)	Styrene	11.35	104	2582476	140.7115	ug/L	98
77)	o-Xylene	11.38	91	3319597	148.7372	ug/L	98
78)	Bromoform	11.45	173	1345421	190.0064	ug/L	100
79)	Cyclohexanone	11.50	55	184309	48.7456	ug/L	99
80)	Isopropylbenzene	11.78	105	4079867	156.7144	ug/L	99
81)	1,2,3-Trichloropropane	11.83	110	437395	168.1681	ug/L	97
84)	cis-1,4-Dichloro-2-butene	11.55	53	606251	215.3525	ug/L	99
85)	1,1,2,2-Tetrachloroethane	11.71	83	1266821	169.1748	ug/L	99
86)	trans-1,4-Dichloro-2-buten	11.86	53	548702	208.5935	ug/L	95
87)	Bromobenzene	12.04	156	1361423	168.4977	ug/L	99
88)	n-Propylbenzene	12.18	91	4531106	175.4642	ug/L	100
89)	2-Chlorotoluene	12.27	91	2986127	176.2895	ug/L	100
90)	4-Chlorotoluene	12.33	91	3531000	176.0583	ug/L	98
91)	1,3,5-Trimethylbenzene	12.37	105	3226157	176.2627	ug/L	99
92)	tert-Butylbenzene	12.70	119	2652530	170.5612	ug/L	99
93)	1,2,4-Trimethylbenzene	12.73	105	3331104	175.1535	ug/L	99
94)	sec-Butylbenzene	12.94	105	3337598	170.4039	ug/L	99
95)	1,3-Dichlorobenzene	13.02	146	2074525	164.8463	ug/L	100
96)	1,4-Dichlorobenzene	13.11	146	2084934	159.2441	ug/L	99
97)	p-Isopropyltoluene	13.08	119	2710411	171.7367	ug/L	100
98)	1,2-Dichlorobenzene	13.42	146	2082248	166.7087	ug/L	100
99)	n-Butylbenzene	13.47	91	2580894	175.4743	ug/L	98

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

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL8.D Vial: 10
Acq On : 2 Feb 2015 1:52 pm Operator:
Sample : SEQ-CAL8 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:12 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:12:07 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
100)	1,2-Dibromo-3-chloropropan	14.06	157	317810	195.6515	ug/L	99
101)	1,3,5-Trichlorobenzene	14.59	180	1552751	175.0371	ug/L	100
102)	1,2,4-Trichlorobenzene	15.13	180	1510302	180.4342	ug/L	99
103)	Naphthalene	15.28	128	3187333	181.5845	ug/L	100
104)	Hexachlorobutadiene	15.42	225	748734	191.6010	ug/L	99
105)	1,2,3-Trichlorobenzene	15.56	180	1352105	180.9396	ug/L	100
106)	2-Methylnaphthalene	16.42	142	338942	51.2053	ug/L	100
107)	1-Methylnaphthalene	16.64	142	278009	50.8405	ug/L	99

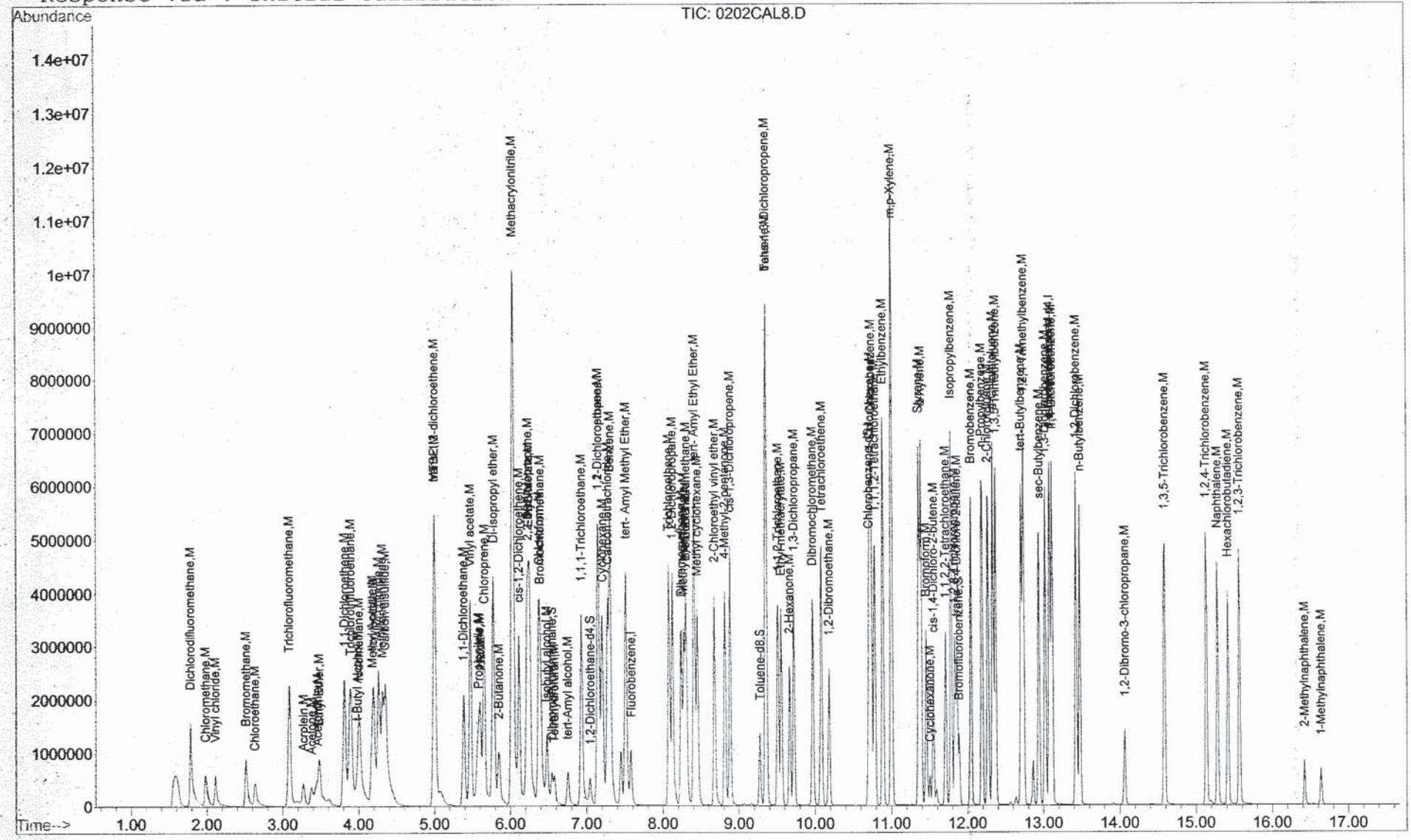
(#) = qualifier out of range (m) = manual integration
0202CAL8.D 020215W6.M Tue Feb 03 06:13:10 2015 Page 3

Quantitation Report

Data File : D:\DATA\020215V6\0202CAL8.D
Acq On : 2 Feb 2015 1:52 pm
Sample : SEQ-CAL8
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:12 2015

Vial: 10
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:12:07 2015
Response via : Initial Calibration

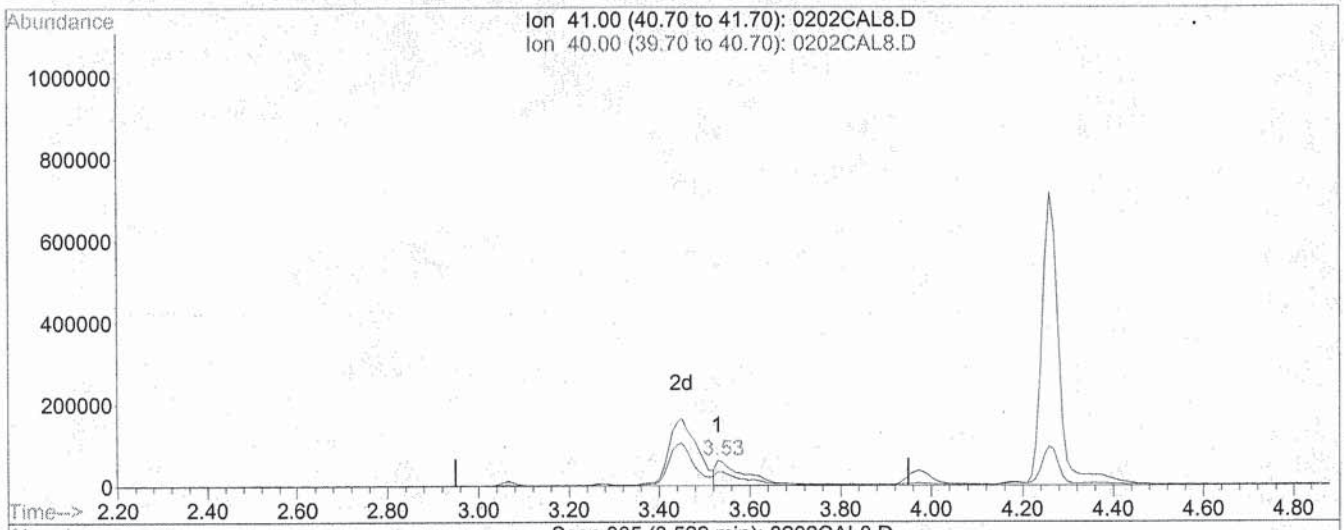


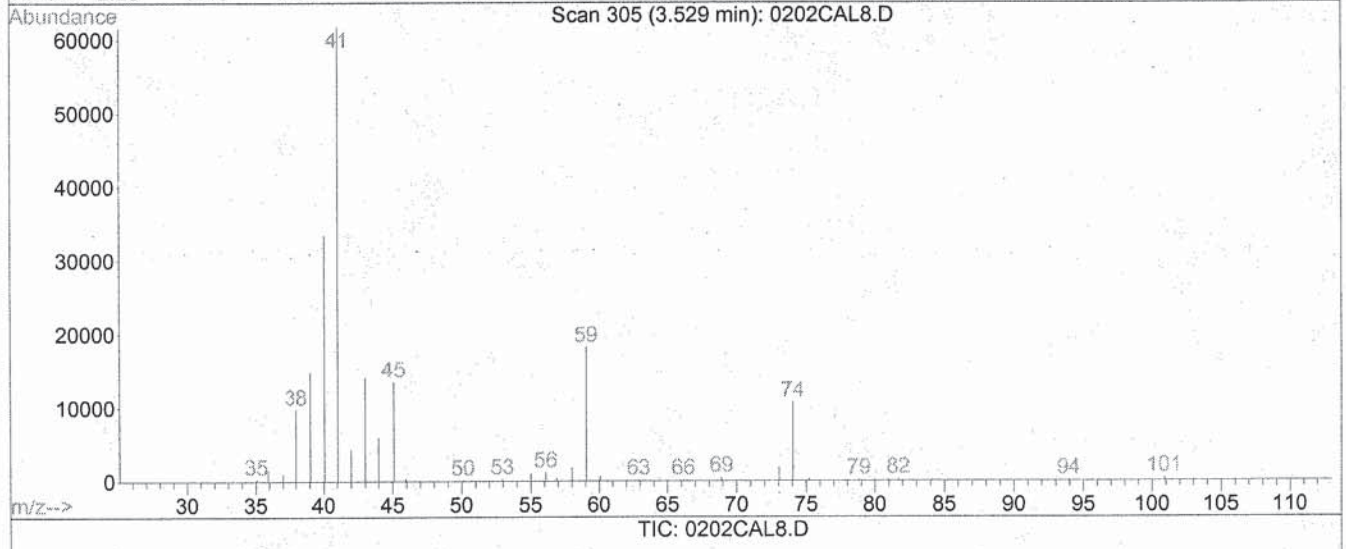
Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202CAL8.D
Acq On : 2 Feb 2015 1:52 pm
Sample : SEQ-CAL8
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:12 2015

Vial: 10
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:12:07 2015
Response via : Multiple Level Calibration





TIC: 0202CAL8.D

(10) Acetonitrile (M)

3.53min 291.72ug/L

response 262535

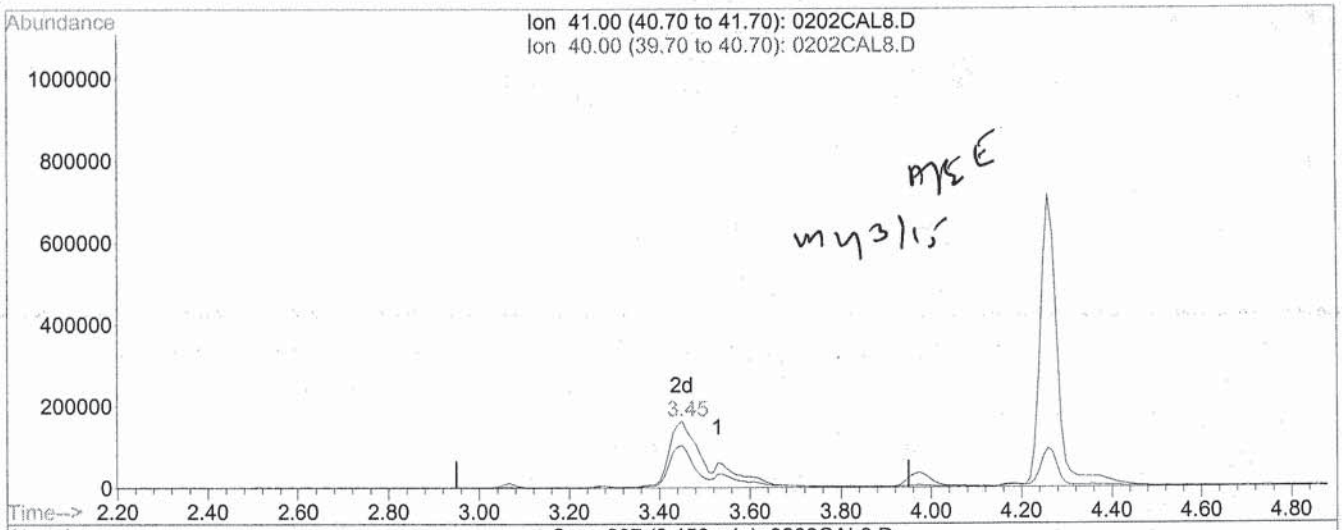
Ion	Exp%	Act%
41.00	100	100
40.00	43.10	45.04
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

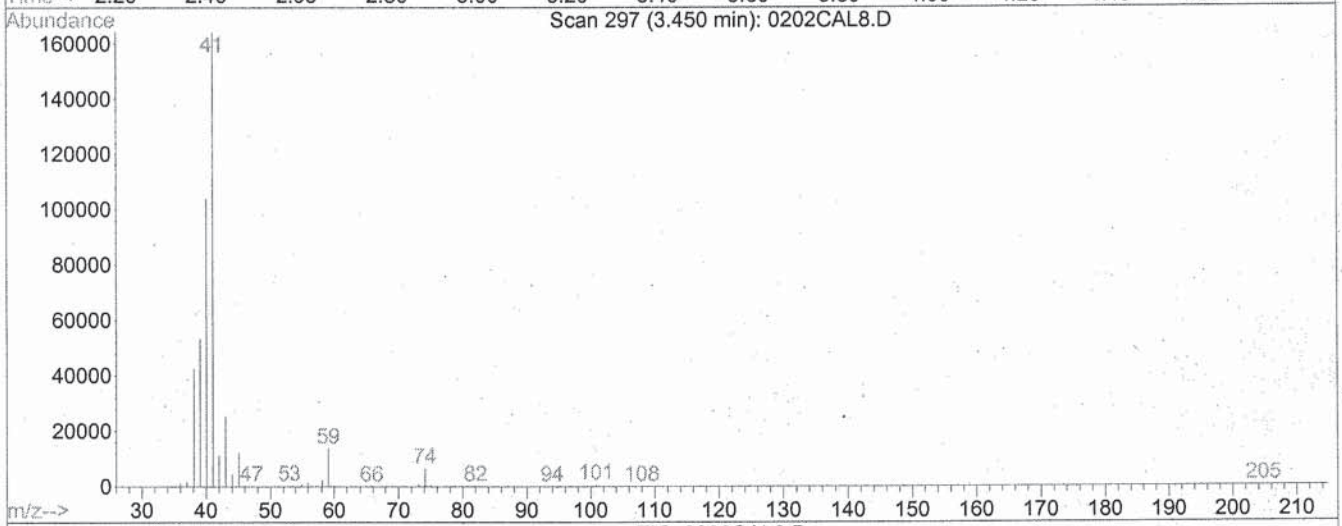
Data File : D:\DATA\020215V6\0202CAL8.D
Acq On : 2 Feb 2015 1:52 pm
Sample : SEQ-CAL8
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:12 2015

Vial: 10
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:12:07 2015
Response via : Multiple Level Calibration



PYE
m43/15



TIC: 0202CAL8.D

(10) Acetonitrile (M)

3.45min 1092.95ug/L m

response 983605

Ion	Exp%	Act%
41.00	100	100
40.00	43.10	12.02#
0.00	0.00	0.00
0.00	0.00	0.00

02/05/15

0202CAL8.D 020215W6.M Tue Feb 03 06:12:27 2015

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL9.D Vial: 11
Acq On : 2 Feb 2015 2:19 pm Operator:
Sample : SEQ-CAL9 / Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00

02/05/15

MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:11 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:10:58 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

mm 3/1,5

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	7.58	96	769346	30.00	ug/L		0.00
60) Chlorobenzene-d5	10.69	82	329872	30.00	ug/L		0.00
83) 1,4-Dichlorobenzene-d4	13.09	152	267393	30.00	ug/L		0.00
System Monitoring Compounds							
38) Dibromofluoromethane	6.54	111	318594	32.70	ug/L		0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 109.00%				
42) 1,2-Dichloroethane-d4	7.05	102	54017	30.43	ug/L		0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 101.43%				
61) Toluene-d8	9.27	98	765149	31.30	ug/L		0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 104.33%				
82) Bromofluorobenzene	11.89	95	331750	31.92	ug/L		0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 106.40%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.78	85	2625065	352.3914	ug/L		100
3) Chloromethane	1.98	50	1003401	260.3858	ug/L		99
4) Vinyl chloride	2.11	62	938504	340.9469	ug/L		100
5) Bromomethane	2.51	94	921790	307.2828	ug/L		98
6) Chloroethane	2.64	64	528269	248.1727	ug/L		100
7) Trichlorofluoromethane	3.10	101	3448743	337.1916	ug/L		99
8) Acrolein	3.27	56	498759	1216.0867	ug/L		97
9) Acetone	3.38	43	957119	510.0888	ug/L		99
10) Acetonitrile	3.45	41	1200013	1382.3369	ug/L	#	19
11) Ethyl Ether	3.49	59	704871	143.9199	ug/L		98
12) 1,1-Dichloroethene	3.81	96	1480148	220.0900	ug/L		97
13) Trichlorotrifluoroethane	3.89	101	1670440	224.7814	ug/L		91
14) Iodomethane	4.01	142	3705633	284.0491	ug/L		99
15) t-Butyl Alcohol	3.97	59	773598	1142.0026	ug/L		98
16) Methyl Acetate	4.18	43	1248001	177.3500	ug/L		100
17) Acrylonitrile	4.20	53	2884411	914.4111	ug/L		98
18) Allyl chloride	4.27	76	694892	199.8809	ug/L		90
19) Methylene chloride	4.32	84	1662968	198.6047	ug/L		98
20) Carbon disulfide	4.36	76	5539291	221.6310	ug/L		100
21) trans-1,2-dichloroethene	5.00	96	1337814	184.1412	ug/L		96
22) MTBE	5.00	73	4205626	223.2907	ug/L		100
23) 1,1-Dichloroethane	5.39	63	3103789	218.4530	ug/L		99
24) Vinyl acetate	5.47	43	8734021	418.1586	ug/L		99
25) Propionitrile	5.58	54	2072586	1850.2522	ug/L		99
26) Hexane	5.60	57	905974	156.0235	ug/L		89
27) Chloroprene	5.66	53	3074816	249.1199	ug/L		98
28) Di-isopropyl ether	5.78	45	5905266	176.8345	ug/L		99
29) 2-Butanone	5.85	43	1893047	395.1810	ug/L		99
30) Methacrylonitrile	6.04	41	9096023	1687.9346	ug/L		95
31) cis-1,2-Dichloroethene	6.12	96	1534474	178.7272	ug/L		96
32) Ethyl Acetate	6.24	43	2482539	228.1447	ug/L		99
33) 2,2-Dichloropropane	6.22	77	2470763	227.3117	ug/L		99
34) ETBE	6.25	59	4982339	199.7393	ug/L		99
35) Chloroform	6.37	83	3282560	223.0762	ug/L		100
36) Bromochloromethane	6.40	128	971220	193.7511	ug/L		100
37) Isobutyl alcohol	6.49	42	601593	3266.7059	ug/L		95
39) Tetrahydrofuran	6.58	72	151381	202.2246	ug/L		92
40) tert-Amyl alcohol	6.76	59	541940	1129.5992	ug/L		99
41) 1,1,1-Trichloroethane	6.93	97	3226006	267.4410	ug/L		100

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

Data File : D:\DATA\020215V6\0202CAL9.D Vial: 11
Acq On : 2 Feb 2015 2:19 pm Operator:
Sample : SEQ-CAL9 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:11 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:10:58 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	1,2-Dichloroethane	7.15	62	3291063	269.6466	ug/L	99
44)	1,1-Dichloropropene	7.16	75	2035618	197.1453	ug/L	99
45)	Cyclohexane	7.21	56	1863720	170.5828	ug/L	99
46)	Carbon tetrachloride	7.27	117	3144117	283.3051	ug/L	99
47)	Benzene	7.30	78	4974834	184.9874	ug/L	100
48)	tert- Amyl Methyl Ether	7.51	73	4033286	208.3714	ug/L	100
49)	Trichloroethene	8.07	95	1744840	210.5418	ug/L	100
50)	1,2-Dichloropropane	8.12	63	1388878	181.7092	ug/L	94
51)	Dibromomethane	8.24	93	1466840	229.9962	ug/L	98
52)	Methyl methacrylate	8.27	41	1681770	206.1515	ug/L	99
53)	1,4-Dioxane	8.29	88	286828	4142.6743	ug/L	98
54)	Bromodichloromethane	8.30	83	2554495	246.3866	ug/L	100
55)	tert- Amyl Ethyl Ether	8.41	59	4252366	201.9584	ug/L	98
56)	Methyl cyclohexane	8.45	83	1415790	189.7894	ug/L	95
57)	2-Chloroethyl vinyl ether	8.67	63	1632654	430.9619	ug/L	99
58)	4-Methyl-2-pentanone	8.81	43	3362200	378.6942	ug/L	98
59)	cis-1,3-Dichloropropene	8.88	75	2464226	198.5106	ug/L	95
62)	trans-1,3-Dichloropropene	9.36	75	2353396	205.2309	ug/L	95
63)	Toluene	9.35	92	2430851	159.9565	ug/L	98
64)	1,1,2-Trichloroethane	9.51	83	1050724	180.9794	ug/L	99
65)	Ethyl methacrylate	9.56	69	1617279	178.0723	ug/L	97
66)	2-Hexanone	9.67	43	2248739	371.7850	ug/L	98
67)	1,3-Dichloropropane	9.72	76	2046182	189.5223	ug/L	100
68)	Dibromochloromethane	9.97	129	2425630	243.7796	ug/L	100
69)	Tetrachloroethene	10.08	166	1781210	203.9536	ug/L	99
70)	1,2-Dibromoethane	10.18	107	1822372	221.0522	ug/L	100
71)	1-Chlorohexane	10.71	91	1288650	170.1179	ug/L	97
72)	Chlorobenzene	10.73	112	3294428	181.3543	ug/L	99
73)	1,1,1,2-Tetrachloroethane	10.78	131	1750693	222.0320	ug/L	99
74)	Ethylbenzene	10.89	91	6094685	206.4726	ug/L	97
75)	m,p-Xylene	11.00	91	8866722	402.5060	ug/L	97
76)	Styrene	11.36	104	3309974	179.5300	ug/L	98
77)	o-Xylene	11.38	91	4303502	191.9444	ug/L	98
78)	Bromoform	11.45	173	1787487	251.2883	ug/L	100
79)	Cyclohexanone	11.50	55	225346	59.3278	ug/L	99
80)	Isopropylbenzene	11.79	105	5332973	203.9161	ug/L	99
81)	1,2,3-Trichloropropane	11.84	110	563793	215.7789	ug/L	97
84)	cis-1,4-Dichloro-2-butene	11.55	53	808174	291.5223	ug/L	99
85)	1,1,2,2-Tetrachloroethane	11.71	83	1598805	216.8130	ug/L	99
86)	trans-1,4-Dichloro-2-buten	11.86	53	718284	277.2872	ug/L	95
87)	Bromobenzene	12.04	156	1768835	222.3093	ug/L	99
88)	n-Propylbenzene	12.19	91	5975640	234.9839	ug/L	100
89)	2-Chlorotoluene	12.27	91	3862223	231.5395	ug/L	100
90)	4-Chlorotoluene	12.33	91	4706173	238.2847	ug/L	98
91)	1,3,5-Trimethylbenzene	12.37	105	4288578	237.9346	ug/L	99
92)	tert-Butylbenzene	12.70	119	3461568	226.0280	ug/L	99
93)	1,2,4-Trimethylbenzene	12.73	105	4375927	233.6524	ug/L	99
94)	sec-Butylbenzene	12.94	105	4435455	229.9604	ug/L	99
95)	1,3-Dichlorobenzene	13.02	146	2736615	220.8226	ug/L	100
96)	1,4-Dichlorobenzene	13.11	146	2739542	212.4802	ug/L	99
97)	p-Isopropyltoluene	13.08	119	3624736	233.2242	ug/L	100
98)	1,2-Dichlorobenzene	13.42	146	2716053	220.8175	ug/L	100
99)	n-Butylbenzene	13.47	91	3388125	233.9225	ug/L	98

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

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202CAL9.D Vial: 11
Acq On : 2 Feb 2015 2:19 pm Operator:
Sample : SEQ-CAL9 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:11 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:10:58 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
100)	1,2-Dibromo-3-chloropropan	14.06	157	424076	265.1116	ug/L	99
101)	1,3,5-Trichlorobenzene	14.59	180	2079074	237.9948	ug/L	100
102)	1,2,4-Trichlorobenzene	15.14	180	1970829	239.0966	ug/L	99
103)	Naphthalene	15.29	128	4259548	246.4248	ug/L	100
104)	Hexachlorobutadiene	15.42	225	1025511	266.4894	ug/L	99
105)	1,2,3-Trichlorobenzene	15.57	180	1791358	243.4305	ug/L	100
106)	2-Methylnaphthalene	16.42	142	451268	69.2298	ug/L	100
107)	1-Methylnaphthalene	16.64	142	363510	67.5051	ug/L	99

(#) = qualifier out of range (m) = manual integration
0202CAL9.D 020215W6.M Tue Feb 03 06:11:57 2015 Page 3

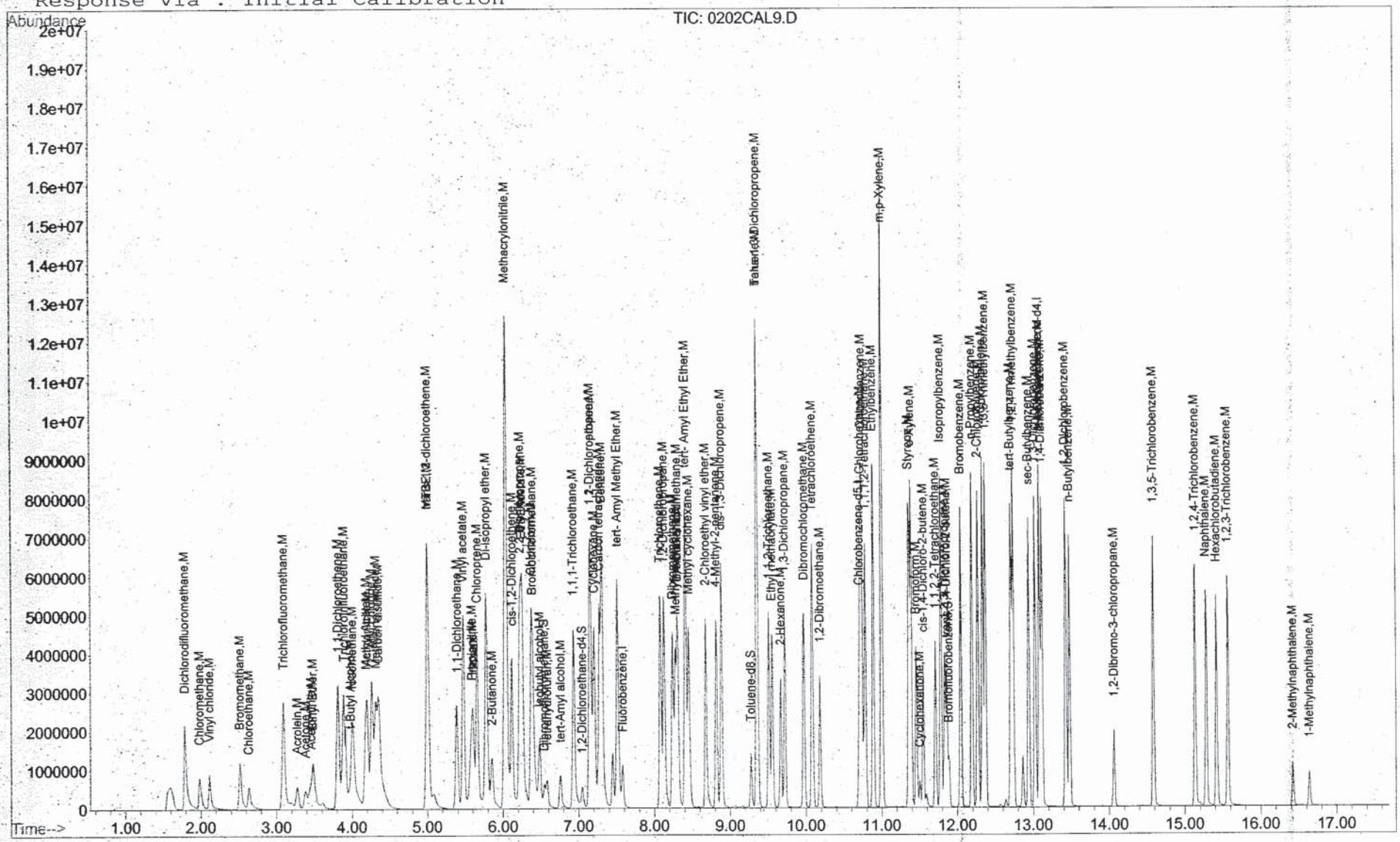
Quantitation Report

Data File : D:\DATA\020215V6\0202CAL9.D
Acq On : 2 Feb 2015 2:19 pm
Sample : SEQ-CAL9
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 6:11 2015

Vial: 11
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 06:10:58 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202ICV1.D Vial: 13
Acq On : 2 Feb 2015 3:14 pm Operator:
Sample : SEQ-ICV1 ALSO LCS1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 8:11 2015 Quant Results File: 020215W6.RES

02/05/15

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	7.58	96	880400	30.00 ug/L	0.00
60) Chlorobenzene-d5	10.69	82	367482	30.00 ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.08	152	331292	30.00 ug/L	0.00
System Monitoring Compounds					
38) Dibromofluoromethane	6.54	111	341800	28.80 ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 96.00%		
42) 1,2-Dichloroethane-d4	7.05	102	59632	28.64 ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 95.47%		
61) Toluene-d8	9.28	98	823410	30.37 ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 101.23%		
82) Bromofluorobenzene	11.89	95	362506	30.82 ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 102.73%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.78	85	579571	47.1195 ug/L	99
3) Chloromethane	1.98	50	292605	57.5702 ug/L	96
4) Vinyl chloride	2.12	62	200548	55.7458 ug/L	97
5) Bromomethane	2.51	94	229426	56.9620 ug/L	99
6) Chloroethane	2.64	64	126178	46.6446 ug/L	97
7) Trichlorofluoromethane	3.09	101	763499	53.5044 ug/L	99
8) Acrolein	3.27	56	108466	218.3028 ug/L	97
9) Acetone	3.37	43	247213	100.3670 ug/L	98
10) Acetonitrile	3.45	41	345289	540.9616 ug/L	100
11) Ethyl Ether	3.48	59	198389	55.8251 ug/L	98
12) 1,1-Dichloroethene	3.81	96	391523	49.1762 ug/L	99
13) Trichlorotrifluoroethane	3.89	101	480795	53.1124 ug/L	97
14) Iodomethane	4.00	142	918095	44.3759 ug/L	99
15) t-Butyl Alcohol	3.97	59	176537m	210.2275 ug/L	
16) Methyl Acetate	4.17	43	359510	51.3989 ug/L	99
17) Acrylonitrile	4.19	53	852934	283.1036 ug/L	98
18) Allyl chloride	4.26	76	195838	51.5897 ug/L	90
19) Methylene chloride	4.31	84	471114	48.2893 ug/L	98
20) Carbon disulfide	4.35	76	1508965	51.2510 ug/L	100
21) trans-1,2-dichloroethene	5.00	96	418301	51.6021 ug/L	98
22) MTBE	5.00	73	1130576	51.4495 ug/L	96
23) 1,1-Dichloroethane	5.38	63	779911	49.5142 ug/L	100
24) Vinyl acetate	5.47	43	2163858	108.5218 ug/L	99
25) Propionitrile	5.56	54	552408	518.6259 ug/L	96
26) Hexane	5.60	57	265575	45.8114 ug/L	95
27) Chloroprene	5.65	53	814662	52.1205 ug/L	98
28) Di-isopropyl ether	5.78	45	1571790	47.2581 ug/L	100
29) 2-Butanone	5.85	43	514026	104.0229 ug/L	100
30) Methacrylonitrile	6.02	41	2750824	506.8684 ug/L	95
31) cis-1,2-Dichloroethene	6.11	96	448924	47.4564 ug/L	99
32) Ethyl Acetate	6.23	43	674898	50.2780 ug/L	98
33) 2,2-Dichloropropane	6.22	77	639195	50.2448 ug/L	99
34) ETBE	6.25	59	1316694	48.3910 ug/L	99
35) Chloroform	6.37	83	874084	48.6443 ug/L	100
36) Bromochloromethane	6.39	128	288512	52.2359 ug/L	99
37) Isobutyl alcohol	6.48	42	145257	853.6035 ug/L	95
39) Tetrahydrofuran	6.57	72	41910	52.9225 ug/L	94
40) tert-Amyl alcohol	6.75	59	130942	215.9178 ug/L	96
41) 1,1,1-Trichloroethane	6.93	97	786526	51.2913 ug/L	99

200548 / 889400 = 0.227791912 × 30 = 55.745 / 0.12259

(#) = qualifier out of range (m) = manual integration
0202ICV1.D 020215W6.M Tue Feb 03 08:11:58 2015 Page 1

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202ICV1.D Vial: 13
Acq On : 2 Feb 2015 3:14 pm Operator:
Sample : SEQ-ICV1 ALSO LCS1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 8:11 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
43)	1,2-Dichloroethane	7.14	62	796781	51.2361 ug/L	99
44)	1,1-Dichloropropene	7.16	75	589479	50.3880 ug/L	98
45)	Cyclohexane	7.21	56	571857	51.2682 ug/L	99
46)	Carbon tetrachloride	7.27	117	734203	50.8787 ug/L	100
47)	Benzene	7.30	78	1489637	50.3083 ug/L	99
48)	tert- Amyl Methyl Ether	7.51	73	1158668	54.0312 ug/L	99
49)	Trichloroethene	8.07	95	491456	51.2029 ug/L	99
50)	1,2-Dichloropropane	8.12	63	423160	51.2547 ug/L	98
51)	Dibromomethane	8.23	93	392726	49.8306 ug/L	99
52)	Methyl methacrylate	8.27	41	446911	53.3339 ug/L	100
53)	1,4-Dioxane	8.28	88	84085	993.7491 ug/L	98
54)	Bromodichloromethane	8.30	83	664616	52.6374 ug/L	100
55)	tert- Amyl Ethyl Ether	8.40	59	1055113	46.9601 ug/L	99
56)	Methyl cyclohexane	8.45	83	422689	50.3516 ug/L	97
57)	2-Chloroethyl vinyl ether	8.67	63	496508	103.9952 ug/L	99
58)	4-Methyl-2-pentanone	8.81	43	903572	104.2715 ug/L	98
59)	cis-1,3-Dichloropropene	8.88	75	691405	52.0655 ug/L	98
62)	trans-1,3-Dichloropropene	9.35	75	610371	50.0506 ug/L	98
63)	Toluene	9.34	92	835333	51.4169 ug/L	100
64)	1,1,2-Trichloroethane	9.50	83	320622	52.1128 ug/L	97
65)	Ethyl methacrylate	9.55	69	485923	58.4860 ug/L	100
66)	2-Hexanone	9.66	43	599856	105.3767 ug/L	98
67)	1,3-Dichloropropane	9.72	76	608536	51.3365 ug/L	99
68)	Dibromochloromethane	9.97	129	596338	57.8793 ug/L	100
69)	Tetrachloroethene	10.08	166	484365	51.9493 ug/L	99
70)	1,2-Dibromoethane	10.18	107	490337	52.8805 ug/L	100
71)	1-Chlorohexane	10.71	91	411452	48.8498 ug/L	100
72)	Chlorobenzene	10.73	112	987980	49.6275 ug/L	100
73)	1,1,1,2-Tetrachloroethane	10.77	131	452482	53.6255 ug/L	99
74)	Ethylbenzene	10.88	91	1668704	50.6763 ug/L	98
75)	m,p-Xylene	11.00	91	2490212	101.9735 ug/L	96
76)	Styrene	11.35	104	1019162	51.5164 ug/L	95
77)	o-Xylene	11.38	91	1241099	49.3746 ug/L	97
78)	Bromoform	11.45	173	429621	51.7937 ug/L	100
79)	Cyclohexanone	11.50	55	71747	128.7645 ug/L	99
80)	Isopropylbenzene	11.78	105	1398664	48.9458 ug/L	98
81)	1,2,3-Trichloropropane	11.83	110	149325	50.3634 ug/L	78
85)	1,1,2,2-Tetrachloroethane	11.71	83	459085	50.2546 ug/L	99
87)	Bromobenzene	12.04	156	482836	50.8138 ug/L	99
88)	n-Propylbenzene	12.18	91	1587450	49.4935 ug/L	98
89)	2-Chlorotoluene	12.26	91	1036314	48.8911 ug/L	99
90)	4-Chlorotoluene	12.33	91	1258764	49.6234 ug/L	98
91)	1,3,5-Trimethylbenzene	12.37	105	1189777	52.0063 ug/L	98
92)	tert-Butylbenzene	12.70	119	976116	50.2597 ug/L	98
93)	1,2,4-Trimethylbenzene	12.73	105	1179194	48.0461 ug/L	98
94)	sec-Butylbenzene	12.93	105	1214876	49.9104 ug/L	99
95)	1,3-Dichlorobenzene	13.02	146	751229	48.2506 ug/L	99
96)	1,4-Dichlorobenzene	13.11	146	764382	48.6376 ug/L	99
97)	p-Isopropyltoluene	13.07	119	989898	50.3876 ug/L	99
98)	1,2-Dichlorobenzene	13.42	146	742237	49.4806 ug/L	100
99)	n-Butylbenzene	13.47	91	935093	50.2366 ug/L	100
100)	1,2-Dibromo-3-chloropropan	14.07	157	110945	51.2224 ug/L	96
101)	1,3,5-Trichlorobenzene	14.59	180	548711	49.8022 ug/L	100

(#) = qualifier out of range (m) = manual integration
0202ICV1.D 020215W6.M Tue Feb 03 08:11:58 2015 Page 2

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020215V6\0202ICV1.D Vial: 13
Acq On : 2 Feb 2015 3:14 pm Operator:
Sample : SEQ-ICV1 ALSO LCS1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 8:11 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

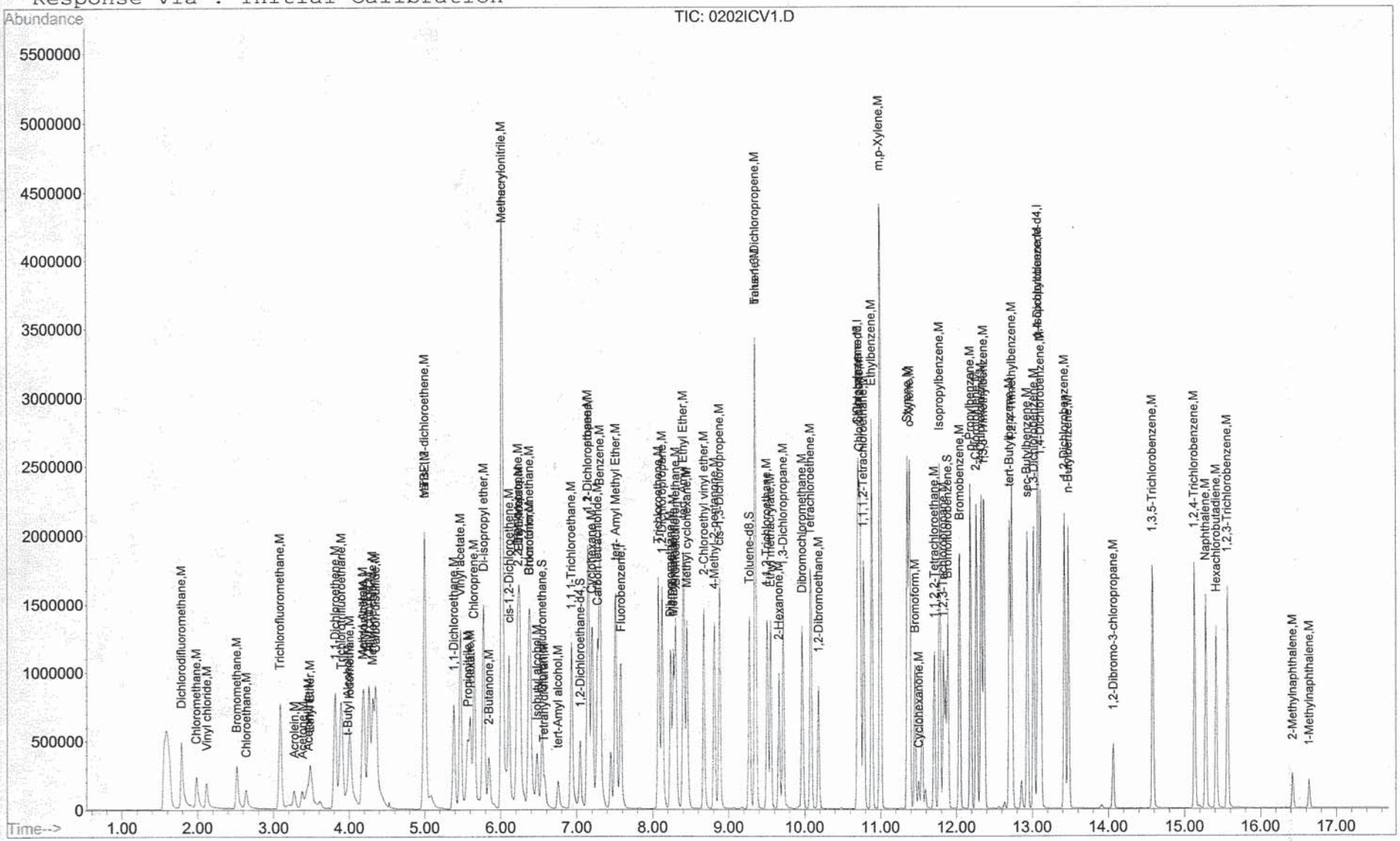
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102)	1,2,4-Trichlorobenzene	15.13	180	512055	50.0686 ug/L	99
103)	Naphthalene	15.28	128	1041040	45.2487 ug/L	100
104)	Hexachlorobutadiene	15.42	225	243780	51.1230 ug/L	100
105)	1,2,3-Trichlorobenzene	15.56	180	450514	51.4893 ug/L	100
106)	2-Methylnaphthalene	16.42	142	103437	10.9136 ug/L	100
107)	1-Methylnaphthalene	16.64	142	81815	10.7792 ug/L	98

(#) = qualifier out of range (m) = manual integration
0202ICV1.D 020215W6.M Tue Feb 03 08:11:58 2015 Page 3

Quantitation Report

Data File : D:\DATA\020215V6\0202ICV1.D Vial: 13
Acq On : 2 Feb 2015 3:14 pm Operator:
Sample : SEQ-ICV1 ALSO LCS1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 3 8:11 2015 Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration



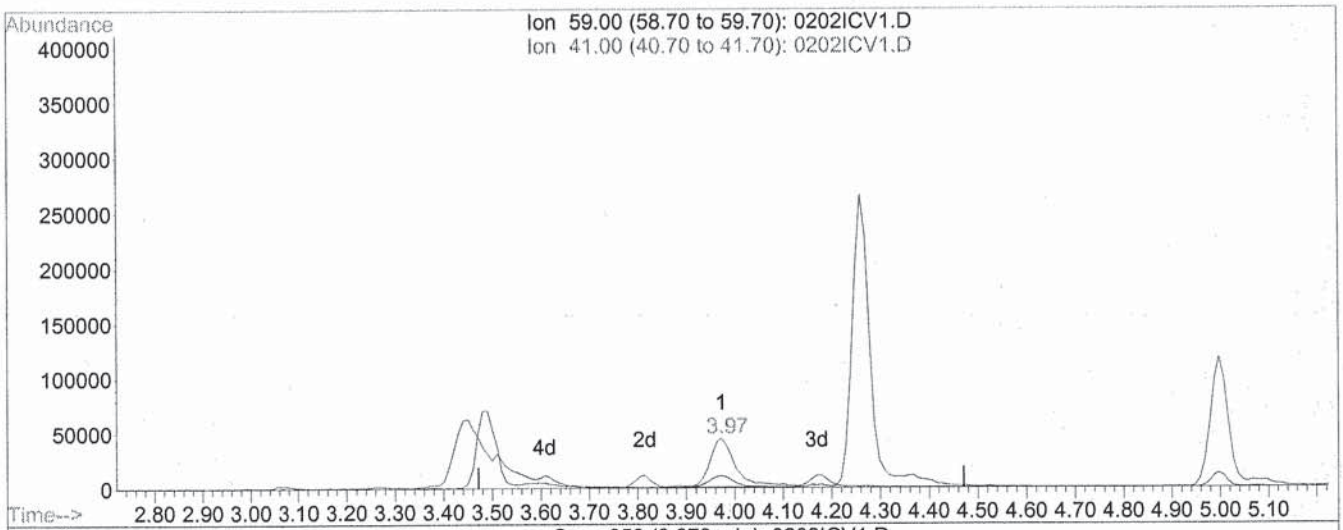
151
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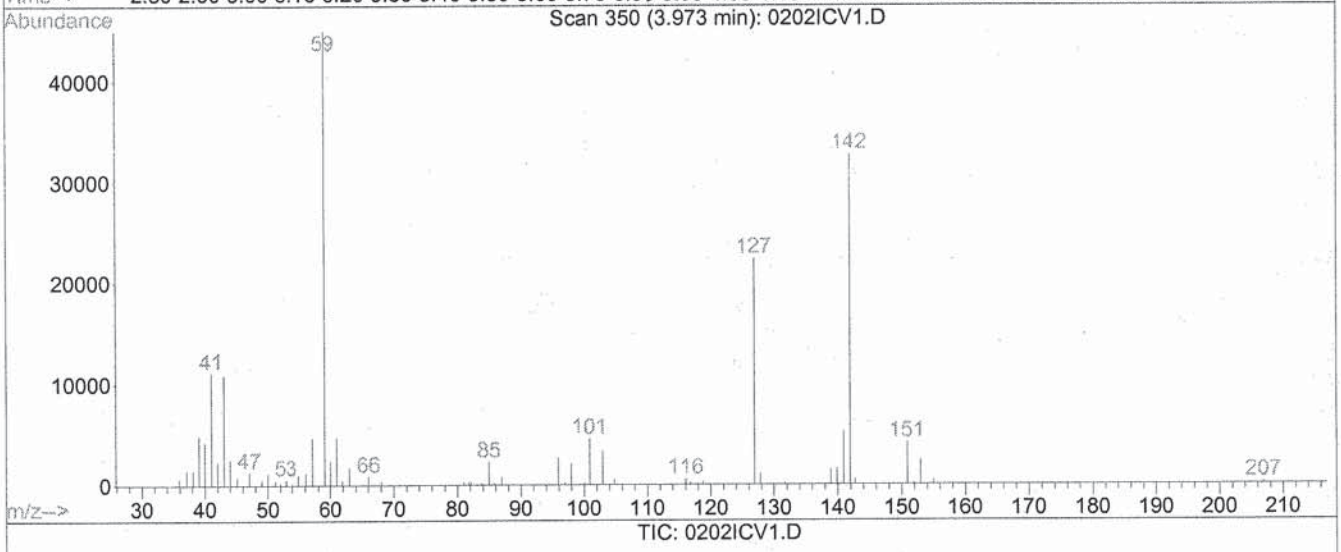
Quantitation Report (Qedit)

Data File : D:\DATA\020215V6\0202ICV1.D
Acq On : 2 Feb 2015 3:14 pm
Sample : SEQ-ICV1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 8:11 2015

Vial: 13
Operator:
ALSO LCS1 Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Multiple Level Calibration





TIC: 0202ICV1.D

(15) t-Butyl Alcohol (M)

3.97min 191.80ug/L

response 161064

Ion	Exp%	Act%
59.00	100	100
41.00	24.50	27.22
0.00	0.00	0.00
0.00	0.00	0.00

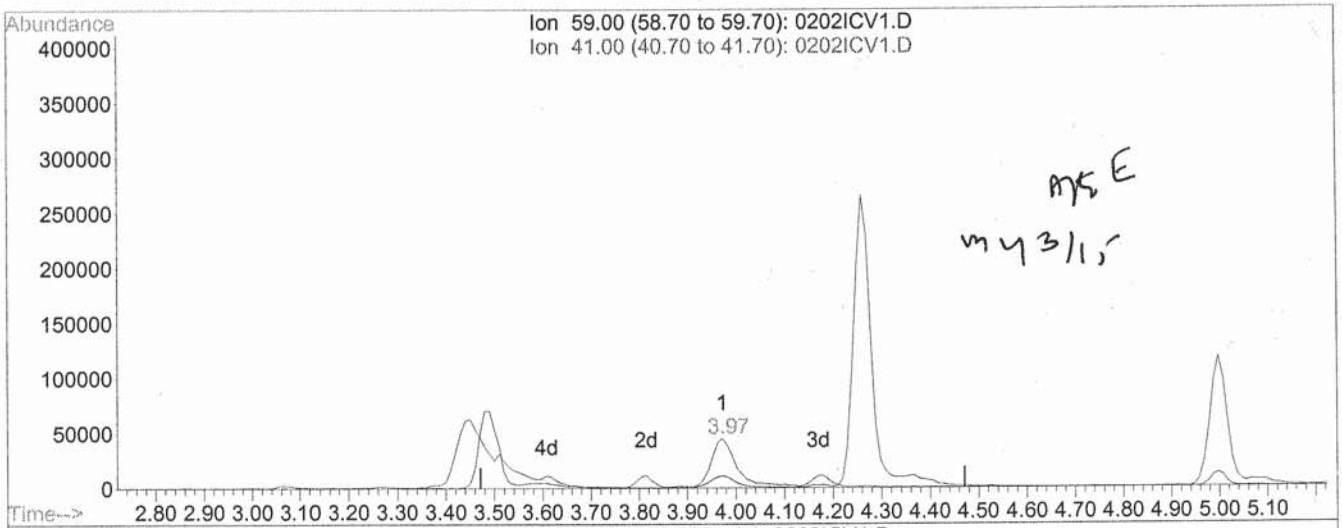
0202ICV1.D 020215W6.M Tue Feb 03 08:11:33 2015

Quantitation Report (Qedit)

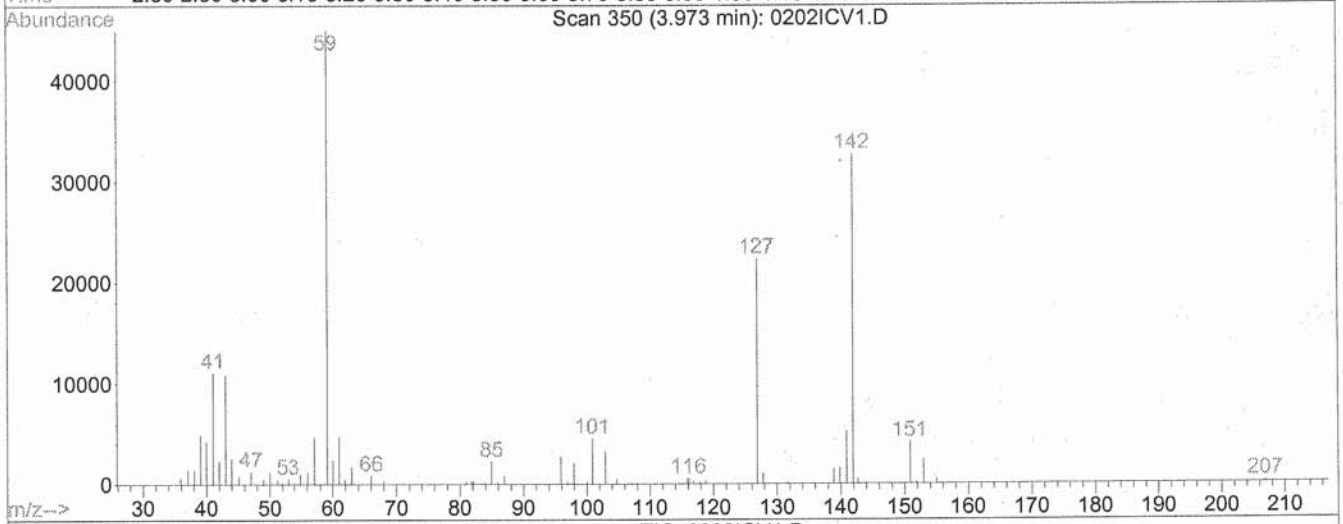
Data File : D:\DATA\020215V6\0202ICV1.D
Acq On : 2 Feb 2015 3:14 pm
Sample : SEQ-ICV1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 3 8:11 2015

Vial: 13
Operator:
ALSO LCS1 Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Multiple Level Calibration



AK E
m43/15



TIC: 0202ICV1.D

(15) t-Butyl Alcohol (M)

3.97min 210.23ug/L m

response 176537

Ion	Exp%	Act%
59.00	100	100
41.00	24.50	24.83
0.00	0.00	0.00
0.00	0.00	0.00

02/05/15

0202ICV1.D 020215W6.M Tue Feb 03 08:11:39 2015

Sequence Name: C:\HPCHEM\1\SEQUENCE\020415V6.S
Comment: 8260B/C/624
Operator:
Data Path: d:\DATA\020415V6\
Pre-Seq Cmd:
Post-Seq Cmd:

pg 1283

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

2/4/15

Line	Type	Vial	DataFile	Method	Sample Name	
1	Sample	50	PRIMER	VW6SUR	SEQ-CCV1	
2	Sample	51	0204TUN1	VW6SUR	SEQ-TUN1 0627	
3	Sample	1	0204CC1	VW6SUR	SEQ-CCV1	
4	Sample	3	0204LCS1	VW6SUR	5B04008-BS1	
5	Sample	4	BLANK	VW6SUR	BLANK	
6	Sample	5	0204RL1	VW6SUR	SEQ-LCV1	
7	Sample	6	BLANK1	VW6SUR	BLANK	
8	Sample	7	0204BLK1	VW6SUR	5B04008-BLK1	
9	Sample	8	0111601A	VW6SUR	1501116-01	
10	Sample	9	0111708A	VW6SUR	1501117-08	
11	Sample	10	0111606A	VW6SUR	1501116-06	
12	Sample	11	0111707A	VW6SUR	1501117-07	
13	Sample	12	0111605B	VW6SUR	1501116-05	
14	Sample	13	0111701B	VW6SUR	1501117-01	
15	Sample	14	0111602B	VW6SUR	1501116-02	2XLF
16	Sample	15	0111603B	VW6SUR	1501116-03	
17	Sample	16	0111604B	VW6SUR	1501116-04	
18	Sample	17	0111607B	VW6SUR	1501116-07	
19	Sample	18	0111702B	VW6SUR	1501117-02	2XF
20	Sample	19	0111703B	VW6SUR	1501117-03	2XF
21	Sample	20	0111706B	VW6SUR	1501117-06	2XF
22	Sample	21	0111605M	VW6SUR	5B04008-MS1	C/F/G
23	Sample	22	0111605S	VW6SUR	5B04008-MSD1	C/F/G
24	Sample	23	0111701M	VW6SUR	5B04008-MS2	C/D/E
25	Sample	24	0111701S	VW6SUR	5B04008-MSD2	C/D/E
26	Sample	25	0204HCV1	VW6SUR	SEQ-HCV1	

PTK2

1829 - Not required

Anton chk

2/4/15

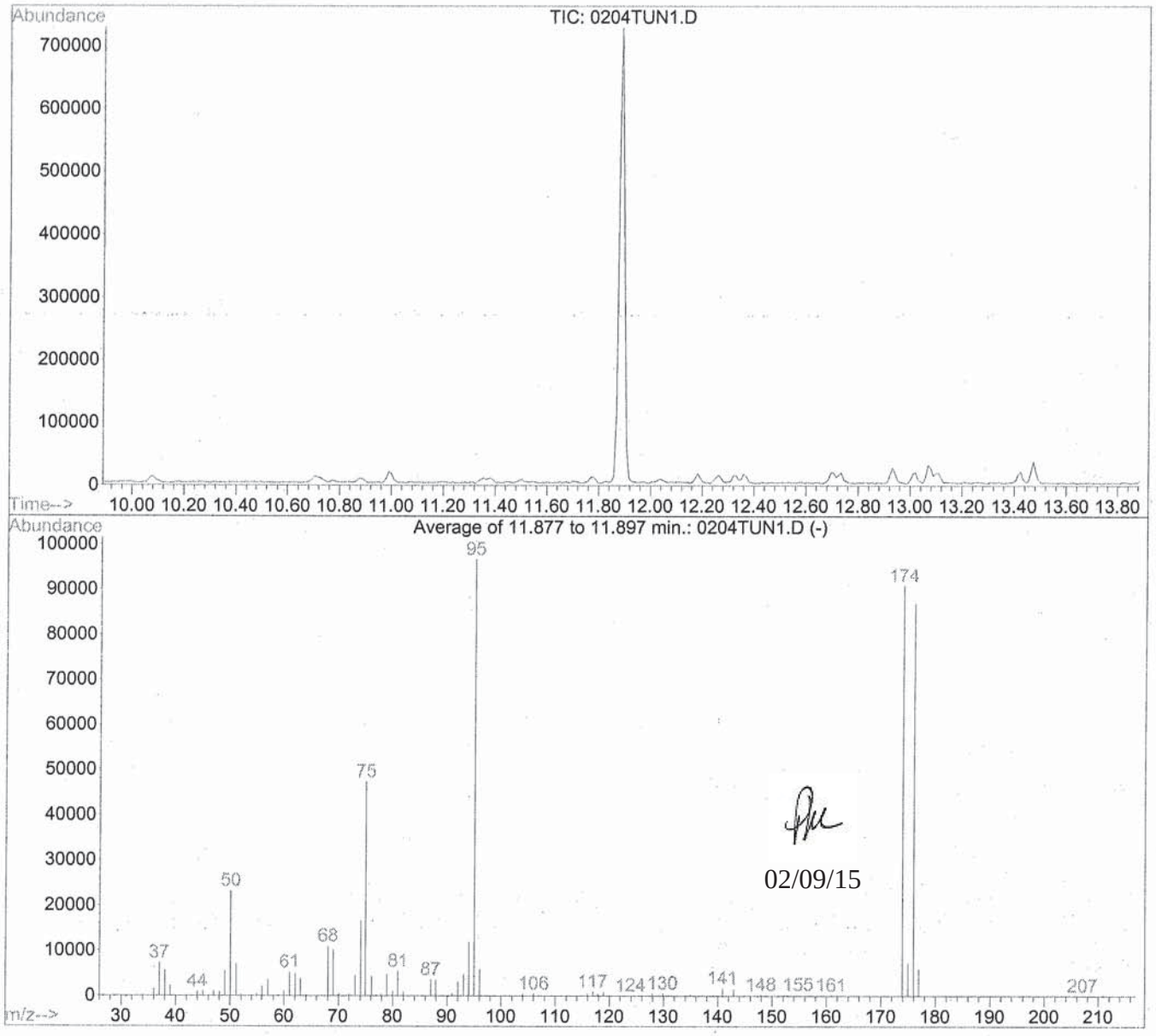
2/4/15

Last Modified: Wed Feb 04 10:09:28 2015

BFB

Data File : D:\DATA\020415V6\0204TUN1.D
Acq On : 4 Feb 2015 6:27 am
Sample : SEQ-TUN1
Misc : 1
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B

Vial: 51
Operator:
Inst : NSH-VOA6
Multiplr: 1.00



02/09/15

AutoFind: Scans 1152, 1153, 1154; Background Corrected with Scan 1147

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	24.0	23197	PASS
75	95	30	60	49.0	47379	PASS
95	95	100	100	100.0	96648	PASS
96	95	5	9	6.0	5833	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	94.0	90843	PASS
175	174	5	9	8.1	7341	PASS
176	174	95	101	95.5	86800	PASS
177	176	5	9	6.8	5940	PASS

M 2/4/15

0204TUN1.D 020215W6.M Wed Feb 04 07:46:44 2015

Average of 11.877 to 11.897 min.: 0204TUN1.D
SEQ-TUN1
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.00	1545	51.10	7066	64.00	197	76.10	4252
37.00	7312	52.00	332	64.20	117	76.90	146
38.05	5705	54.25	51	67.00	211	77.05	161
39.00	2240	55.00	489	68.05	11024	77.85	370
42.90	118	56.05	2113	69.00	10222	78.05	78
44.00	969	57.05	3558	69.90	316	78.90	4696
45.00	1095	58.00	80	70.10	532	79.75	102
47.00	1042	60.00	1060	71.95	453	80.00	1008
48.05	959	61.05	5253	73.05	4504	80.95	5480
49.00	5489	62.05	4875	74.05	16601	81.95	844
50.05	23197	63.00	3787	74.95	47379	82.90	52

Average of 11.877 to 11.897 min.: 0204TUN1.D
SEQ-TUN1
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
87.00	3654	104.00	441	118.90	843	136.75	101
87.95	3559	105.05	82	122.90	60	137.05	253
90.95	637	105.85	227	123.95	64	139.75	67
92.00	3103	106.05	528	125.65	53	140.90	1733
93.05	4725	106.85	60	127.95	558	141.95	119
94.05	12053	110.85	144	129.00	200	142.90	1471
95.00	96648	112.55	68	129.85	595	145.05	51
96.00	5833	114.90	144	130.90	217	145.80	185
96.90	93	115.90	503	134.70	58	146.80	108
97.10	111	116.95	962	134.95	305	147.95	295
103.80	192	117.85	457	135.70	53	148.90	61

Average of 11.877 to 11.897 min.: 0204TUN1.D
SEQ-TUN1
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
149.80	62	175.95	86800				
152.95	63	176.90	5940				
153.95	126	177.95	70				
154.60	50	207.10	54				
154.85	250						
156.90	191						
158.95	117						
160.90	124						
164.95	51						
173.90	90843						
174.95	7341						

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020415V6\0204CC1.D
Acq On : 4 Feb 2015 7:28 am
Sample : SEQ-CCV1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:39 2015

Vial: 1
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

02/09/15

Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.58	96	840243	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.69	82	364889	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.08	152	319745	30.00	ug/L	0.00
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	341755	30.17	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 100.57%			
42) 1,2-Dichloroethane-d4	7.05	102	57951	29.17	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 97.23%			
61) Toluene-d8	9.27	98	820762	30.49	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 101.63%			
82) Bromofluorobenzene	11.89	95	365222	31.27	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 104.23%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.79	85	1326553	105.9850	ug/L	100
3) Chloromethane	1.99	50	487411	100.4815	ug/L	98
4) Vinyl chloride	2.12	62	394346	114.8541	ug/L	100
5) Bromomethane	2.52	94	447207	105.5959	ug/L	99
6) Chloroethane	2.64	64	269519	104.3955	ug/L	97
7) Trichlorofluoromethane	3.10	101	1657831	121.7297	ug/L	100
8) Acrolein	3.27	56	171217	361.0669	ug/L	98
9) Acetone	3.38	43	607837	258.5721	ug/L	97
10) Acetonitrile	3.45	41	491908	807.5003	ug/L #	70
11) Ethyl Ether	3.49	59	339514	100.1025	ug/L	100
12) 1,1-Dichloroethene	3.81	96	791166	104.1215	ug/L	99
13) Trichlorotrifluoroethane	3.89	101	950201	109.9832	ug/L	99
14) Iodomethane	4.01	142	1975247	100.0359	ug/L	98
15) t-Butyl Alcohol	3.97	59	348209	434.4792	ug/L	97
16) Methyl Acetate	4.18	43	635070	95.1348	ug/L	99
17) Acrylonitrile	4.20	53	1495935	520.2568	ug/L	100
18) Allyl chloride	4.27	76	372101	102.7075	ug/L	93
19) Methylene chloride	4.32	84	900606	96.7242	ug/L	99
20) Carbon disulfide	4.36	76	2876366	102.3629	ug/L	100
21) trans-1,2-dichloroethene	5.00	96	778102	100.5749	ug/L	98
22) MTBE	5.01	73	2227913	106.2319	ug/L	98
23) 1,1-Dichloroethane	5.39	63	1520795	101.1650	ug/L	98
24) Vinyl acetate	5.47	43	4170086	202.3468	ug/L	100
25) Propionitrile	5.57	54	952573	937.0604	ug/L #	92
26) Hexane	5.60	57	525340	94.9515	ug/L	98
27) Chloroprene	5.66	53	1574227	105.5295	ug/L	94
28) Di-isopropyl ether	5.78	45	3101156	97.6969	ug/L	99
29) 2-Butanone	5.84	43	1022406	209.2851	ug/L	99
30) Methacrylonitrile	6.03	41	4734756	914.1241	ug/L	98
31) cis-1,2-Dichloroethene	6.11	96	853469	94.5334	ug/L	99
32) Ethyl Acetate	6.24	43	1312425	102.4447	ug/L	99
33) 2,2-Dichloropropane	6.22	77	1362236	112.1981	ug/L	100
34) ETBE	6.25	59	2635993	101.5077	ug/L	96
35) Chloroform	6.37	83	1765650	102.9577	ug/L	99
36) Bromochloromethane	6.40	128	551545	104.6312	ug/L	98
37) Isobutyl alcohol	6.48	42	290222	1787.0001	ug/L	96
39) Tetrahydrofuran	6.58	72	77756	102.8803	ug/L	92
40) tert-Amyl alcohol	6.75	59	247336	427.3384	ug/L	95
41) 1,1,1-Trichloroethane	6.93	97	1678237	114.6724	ug/L	100

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

Data File : D:\DATA\020415V6\0204CC1.D Vial: 1
Acq On : 4 Feb 2015 7:28 am Operator:
Sample : SEQ-CCV1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:39 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
43)	1,2-Dichloroethane	7.14	62	1716065	115.6234 ug/L	99
44)	1,1-Dichloropropene	7.16	75	1153383	103.3017 ug/L	99
45)	Cyclohexane	7.21	56	1013821	95.2351 ug/L	98
46)	Carbon tetrachloride	7.27	117	1602282	106.4691 ug/L	100
47)	Benzene	7.30	78	2803742	99.2139 ug/L	100
48)	tert- Amyl Methyl Ether	7.51	73	2138599	104.4936 ug/L	98
49)	Trichloroethene	8.07	95	948963	103.5939 ug/L	98
50)	1,2-Dichloropropane	8.12	63	762647	96.7895 ug/L	95
51)	Dibromomethane	8.23	93	791616	105.2438 ug/L	98
52)	Methyl methacrylate	8.27	41	840965	105.1564 ug/L	100
53)	1,4-Dioxane	8.28	88	159155	1970.8502 ug/L	96
54)	Bromodichloromethane	8.30	83	1345957	111.6941 ug/L	99
55)	tert- Amyl Ethyl Ether	8.40	59	2238429	104.3875 ug/L	98
56)	Methyl cyclohexane	8.45	83	772841	96.4623 ug/L	97
57)	2-Chloroethyl vinyl ether	8.67	63	905345	198.6901 ug/L	98
58)	4-Methyl-2-pentanone	8.81	43	1678474	202.9516 ug/L	100
59)	cis-1,3-Dichloropropene	8.88	75	1335464	105.3720 ug/L	95
62)	trans-1,3-Dichloropropene	9.35	75	1291144	106.6266 ug/L	96
63)	Toluene	9.34	92	1469159	91.0731 ug/L	100
64)	1,1,2-Trichloroethane	9.50	83	591506	96.8245 ug/L	100
65)	Ethyl methacrylate	9.55	69	851116	103.1689 ug/L	94
66)	2-Hexanone	9.66	43	1175968	208.0503 ug/L	99
67)	1,3-Dichloropropane	9.72	76	1119633	95.1243 ug/L	99
68)	Dibromochloromethane	9.96	129	1242379	121.4396 ug/L	98
69)	Tetrachloroethene	10.07	166	959891	103.6822 ug/L	99
70)	1,2-Dibromoethane	10.18	107	958683	104.1240 ug/L	99
71)	1-Chlorohexane	10.71	91	762887	91.2177 ug/L	99
72)	Chlorobenzene	10.73	112	1879787	95.0951 ug/L	99
73)	1,1,1,2-Tetrachloroethane	10.77	131	936258	111.7483 ug/L	99
74)	Ethylbenzene	10.88	91	3302183	100.9955 ug/L	99
75)	m,p-Xylene	10.99	91	4775937	196.9632 ug/L	98
76)	Styrene	11.35	104	1889493	96.1884 ug/L	99
77)	o-Xylene	11.38	91	2393576	95.9002 ug/L	99
78)	Bromoform	11.45	173	934328	102.4963 ug/L	99
79)	Cyclohexanone	11.50	55	175048	316.3916 ug/L	96
80)	Isopropylbenzene	11.78	105	2873300	101.2647 ug/L	100
81)	1,2,3-Trichloropropane	11.83	110	305704	103.8387 ug/L	96
84)	cis-1,4-Dichloro-2-butene	11.54	53	411047	87.8414 ug/L	98
85)	1,1,2,2-Tetrachloroethane	11.71	83	872096	98.9131 ug/L	99
86)	trans-1,4-Dichloro-2-buten	11.86	53	362601	86.6735 ug/L	96
87)	Bromobenzene	12.04	156	984986	107.4036 ug/L	97
88)	n-Propylbenzene	12.18	91	3196234	103.2510 ug/L	100
89)	2-Chlorotoluene	12.26	91	2102796	102.7881 ug/L	100
90)	4-Chlorotoluene	12.33	91	2554782	104.3526 ug/L	98
91)	1,3,5-Trimethylbenzene	12.36	105	2307936	104.5253 ug/L	100
92)	tert-Butylbenzene	12.70	119	1900919	101.4120 ug/L	99
93)	1,2,4-Trimethylbenzene	12.73	105	2384962	100.6843 ug/L	99
94)	sec-Butylbenzene	12.93	105	2362699	100.5714 ug/L	99
95)	1,3-Dichlorobenzene	13.02	146	1490992	99.2230 ug/L	100
96)	1,4-Dichlorobenzene	13.11	146	1514291	99.8340 ug/L	99
97)	p-Isopropyltoluene	13.07	119	1932023	101.8950 ug/L	99
98)	1,2-Dichlorobenzene	13.42	146	1481656	102.3403 ug/L	100
99)	n-Butylbenzene	13.47	91	1813799	100.9630 ug/L	99

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

Data File : D:\DATA\020415V6\0204CC1.D Vial: 1
Acq On : 4 Feb 2015 7:28 am Operator:
Sample : SEQ-CCV1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:39 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
100)	1,2-Dibromo-3-chloropropan	14.06	157	216218	95.2358	ug/L	100
101)	1,3,5-Trichlorobenzene	14.59	180	1099201	103.3687	ug/L	99
102)	1,2,4-Trichlorobenzene	15.13	180	1039847	105.3479	ug/L	99
103)	Naphthalene	15.28	128	2185657	93.6241	ug/L	100
104)	Hexachlorobutadiene	15.42	225	522138	113.4515	ug/L	99
105)	1,2,3-Trichlorobenzene	15.56	180	924425	109.4681	ug/L	100
106)	2-Methylnaphthalene	16.42	142	234150	25.5972	ug/L	98
107)	1-Methylnaphthalene	16.64	142	191574	26.1516	ug/L	99

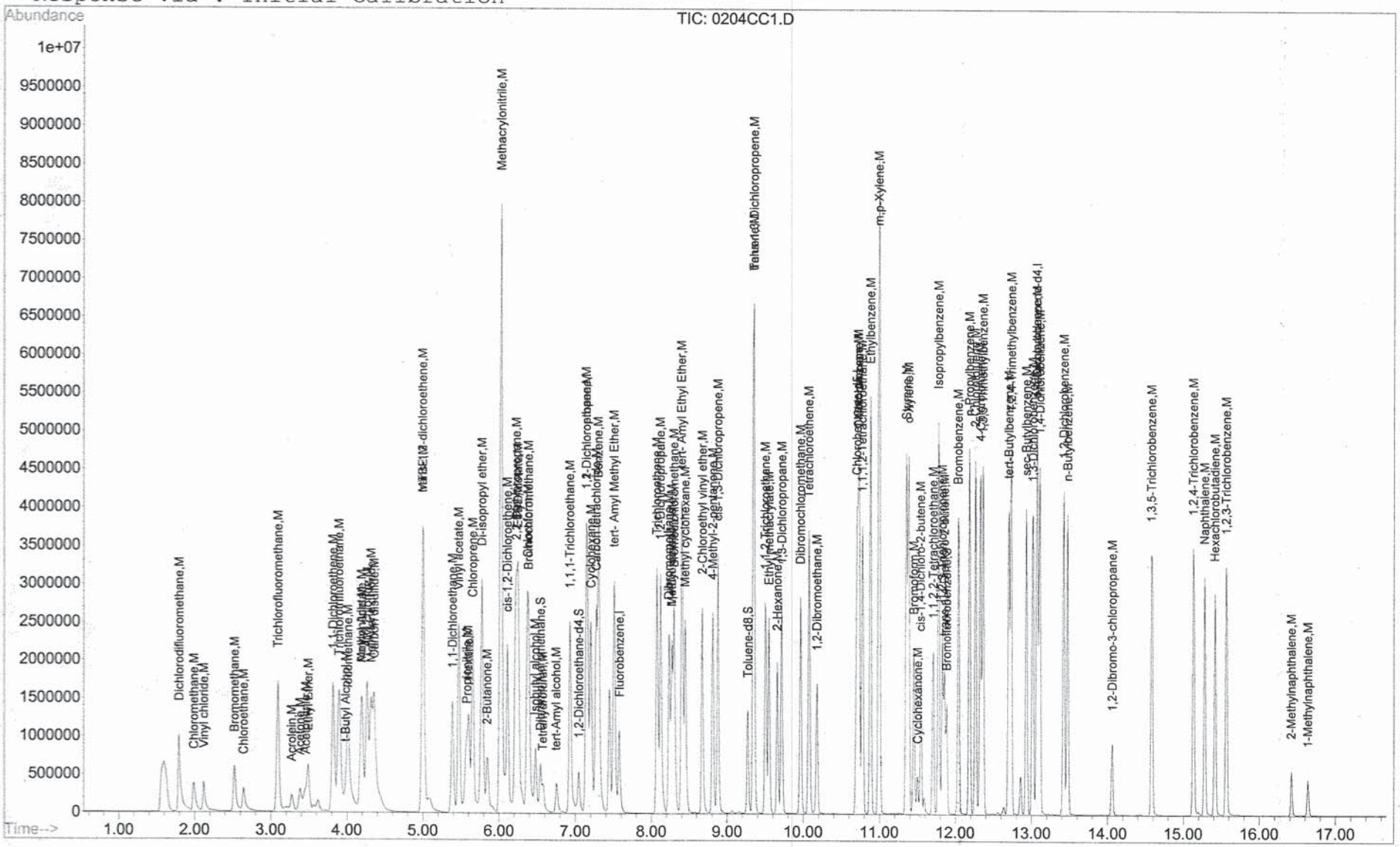
(#) = qualifier out of range (m) = manual integration

Data File : D:\DATA\020415V6\0204CC1.D
Acq On : 4 Feb 2015 7:28 am
Sample : SEQ-CCV1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:39 2015

Vial: 1
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration



160
1501116

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020415V6\0204LCS1.D Vial: 3
Acq On : 4 Feb 2015 8:23 am Operator:
Sample : 5B04008-BS1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:40 2015 Quant Results File: 020215W6.RES

02/09/15

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.58	96	942506	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.69	82	424862	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.08	152	377870	30.00	ug/L	0.00
System Monitoring Compounds						
38) Dibromofluoromethane	6.55	111	390951	30.77	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 102.57%			
42) 1,2-Dichloroethane-d4	7.05	102	66856	30.00	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 100.00%			
61) Toluene-d8	9.28	98	934187	29.80	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 99.33%			
82) Bromofluorobenzene	11.89	95	411230	30.24	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 100.80%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.79	85	742610	55.8107	ug/L	100
3) Chloromethane	1.99	50	292888	53.8286	ug/L	99
4) Vinyl chloride	2.12	62	225896	58.6541	ug/L	97
5) Bromomethane	2.52	94	258147	59.5438	ug/L	100
6) Chloroethane	2.64	64	138002	47.6539	ug/L	94
7) Trichlorofluoromethane	3.10	101	961196	62.9200	ug/L	98
8) Acrolein	3.27	56	66790	125.5663	ug/L	97
9) Acetone	3.38	43	344565	130.6732	ug/L	98
10) Acetonitrile	3.45	41	358861	525.1772	ug/L	99
11) Ethyl Ether	3.49	59	211435	55.5757	ug/L	99
12) 1,1-Dichloroethene	3.82	96	449730	52.7649	ug/L	99
13) Trichlorotrifluoroethane	3.89	101	551027	56.8597	ug/L	99
14) Iodomethane	4.01	142	1074048	48.4930	ug/L	99
15) t-Butyl Alcohol	3.98	59	168329	187.2443	ug/L	98
16) Methyl Acetate	4.18	43	365538	48.8170	ug/L	99
17) Acrylonitrile	4.20	53	875888	271.5654	ug/L	99
18) Allyl chloride	4.27	76	221479	54.4998	ug/L	92
19) Methylene chloride	4.32	84	528921	50.6421	ug/L	99
20) Carbon disulfide	4.36	76	1714136	54.3832	ug/L	99
21) trans-1,2-dichloroethene	5.00	96	471771	54.3632	ug/L	98
22) MTBE	5.01	73	1264311	53.7442	ug/L	99
23) 1,1-Dichloroethane	5.39	63	920762	54.6044	ug/L	100
24) Vinyl acetate	5.47	43	2258356	106.0306	ug/L	99
25) Propionitrile	5.57	54	574587	503.9018	ug/L	93
26) Hexane	5.61	57	317354	51.1359	ug/L	98
27) Chloroprene	5.66	53	909382	54.3468	ug/L	97
28) Di-isopropyl ether	5.78	45	1635432	45.9315	ug/L	98
29) 2-Butanone	5.85	43	592709	111.7357	ug/L	98
30) Methacrylonitrile	6.02	41	2865407	493.1904	ug/L	94
31) cis-1,2-Dichloroethene	6.11	96	503890	49.7570	ug/L	97
32) Ethyl Acetate	6.23	43	726066	50.5257	ug/L	99
33) 2,2-Dichloropropane	6.22	77	769740	56.5194	ug/L	99
34) ETBE	6.25	59	1415477	48.5935	ug/L	95
35) Chloroform	6.37	83	1008589	52.4311	ug/L	99
36) Bromochloromethane	6.40	128	323567	54.7224	ug/L	99
37) Isobutyl alcohol	6.48	42	146574	804.5850	ug/L	99
39) Tetrahydrofuran	6.58	72	44433	52.4113	ug/L	93
40) tert-Amyl alcohol	6.76	59	134148	206.6282	ug/L	96
41) 1,1,1-Trichloroethane	6.93	97	944355	57.5257	ug/L	100

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

Data File : D:\DATA\020415V6\0204LCS1.D Vial: 3
Acq On : 4 Feb 2015 8:23 am Operator:
Sample : 5B04008-BS1 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:40 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
43)	1,2-Dichloroethane	7.14	62	923563	55.4753 ug/L	100
44)	1,1-Dichloropropene	7.16	75	697053	55.6571 ug/L	99
45)	Cyclohexane	7.21	56	638679	53.4859 ug/L	99
46)	Carbon tetrachloride	7.27	117	883675	56.6488 ug/L	100
47)	Benzene	7.30	78	1663164	52.4675 ug/L	99
48)	tert- Amyl Methyl Ether	7.51	73	1254370	54.6395 ug/L	99
49)	Trichloroethene	8.07	95	563179	54.8090 ug/L	98
50)	1,2-Dichloropropane	8.12	63	457181	51.7265 ug/L	100
51)	Dibromomethane	8.23	93	450426	53.3859 ug/L	99
52)	Methyl methacrylate	8.27	41	476343	53.1005 ug/L	99
53)	1,4-Dioxane	8.29	88	95184	1050.7952 ug/L	99
54)	Bromodichloromethane	8.30	83	772950	57.1836 ug/L	100
55)	tert- Amyl Ethyl Ether	8.40	59	1100549	45.7547 ug/L	97
56)	Methyl cyclohexane	8.45	83	485308	54.0015 ug/L	99
57)	2-Chloroethyl vinyl ether	8.67	63	536038	104.8766 ug/L	100
58)	4-Methyl-2-pentanone	8.81	43	963262	103.8348 ug/L	99
59)	cis-1,3-Dichloropropene	8.88	75	782330	55.0305 ug/L	98
62)	trans-1,3-Dichloropropene	9.35	75	694859	49.2834 ug/L	99
63)	Toluene	9.34	92	950221	50.5893 ug/L	98
64)	1,1,2-Trichloroethane	9.50	83	354381	49.8207 ug/L	99
65)	Ethyl methacrylate	9.55	69	518163	53.9435 ug/L	100
66)	2-Hexanone	9.66	43	691101	105.0092 ug/L	98
67)	1,3-Dichloropropane	9.72	76	680184	49.6312 ug/L	99
68)	Dibromochloromethane	9.97	129	690431	57.9615 ug/L	100
69)	Tetrachloroethene	10.07	166	567788	52.6722 ug/L	99
70)	1,2-Dibromoethane	10.18	107	558553	52.1018 ug/L	98
71)	1-Chlorohexane	10.70	91	474684	48.7457 ug/L	99
72)	Chlorobenzene	10.73	112	1118743	48.6063 ug/L	99
73)	1,1,1,2-Tetrachloroethane	10.77	131	524831	53.7994 ug/L	99
74)	Ethylbenzene	10.88	91	1929073	50.6714 ug/L	98
75)	m,p-Xylene	10.99	91	2767125	98.0095 ug/L	97
76)	Styrene	11.36	104	1159529	50.6958 ug/L	97
77)	o-Xylene	11.37	91	1420593	48.8826 ug/L	97
78)	Bromoform	11.45	173	501664	52.2594 ug/L	99
79)	Cyclohexanone	11.50	55	95245	147.8505 ug/L	96
80)	Isopropylbenzene	11.78	105	1645733	49.8138 ug/L	98
81)	1,2,3-Trichloropropane	11.83	110	174418	50.8818 ug/L	75
84)	cis-1,4-Dichloro-2-butene	11.54	53	218595	39.5284 ug/L	98
85)	1,1,2,2-Tetrachloroethane	11.70	83	508495	48.8020 ug/L	100
86)	trans-1,4-Dichloro-2-buten	11.86	53	200328	40.5191 ug/L	79
87)	Bromobenzene	12.04	156	558776	51.5570 ug/L	99
88)	n-Propylbenzene	12.18	91	1850960	50.5957 ug/L	98
89)	2-Chlorotoluene	12.26	91	1200711	49.6644 ug/L	99
90)	4-Chlorotoluene	12.32	91	1455222	50.2968 ug/L	99
91)	1,3,5-Trimethylbenzene	12.36	105	1386979	53.1531 ug/L	98
92)	tert-Butylbenzene	12.70	119	1136814	51.3188 ug/L	99
93)	1,2,4-Trimethylbenzene	12.73	105	1386633	49.5340 ug/L	98
94)	sec-Butylbenzene	12.93	105	1419604	51.1322 ug/L	99
95)	1,3-Dichlorobenzene	13.01	146	854618	48.1250 ug/L	99
96)	1,4-Dichlorobenzene	13.11	146	889223	49.6068 ug/L	100
97)	p-Isopropyltoluene	13.07	119	1151951	51.4086 ug/L	99
98)	1,2-Dichlorobenzene	13.42	146	866559	50.6476 ug/L	99
99)	n-Butylbenzene	13.47	91	1073955	50.5848 ug/L	100

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

Data File : D:\DATA\020415V6\0204LCS1.D
Acq On : 4 Feb 2015 8:23 am
Sample : 5B04008-BS1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:40 2015

Vial: 3
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
100)	1,2-Dibromo-3-chloropropan	14.07	157	127152	51.4457	ug/L	94
101)	1,3,5-Trichlorobenzene	14.58	180	636787	50.6719	ug/L	98
102)	1,2,4-Trichlorobenzene	15.13	180	586912	50.3142	ug/L	100
103)	Naphthalene	15.28	128	1202193	45.7828	ug/L	100
104)	Hexachlorobutadiene	15.42	225	275565	50.6653	ug/L	99
105)	1,2,3-Trichlorobenzene	15.56	180	520130	52.1182	ug/L	99
106)	2-Methylnaphthalene	16.42	142	114905	10.6292	ug/L	96
107)	1-Methylnaphthalene	16.64	142	94668	10.9352	ug/L	98

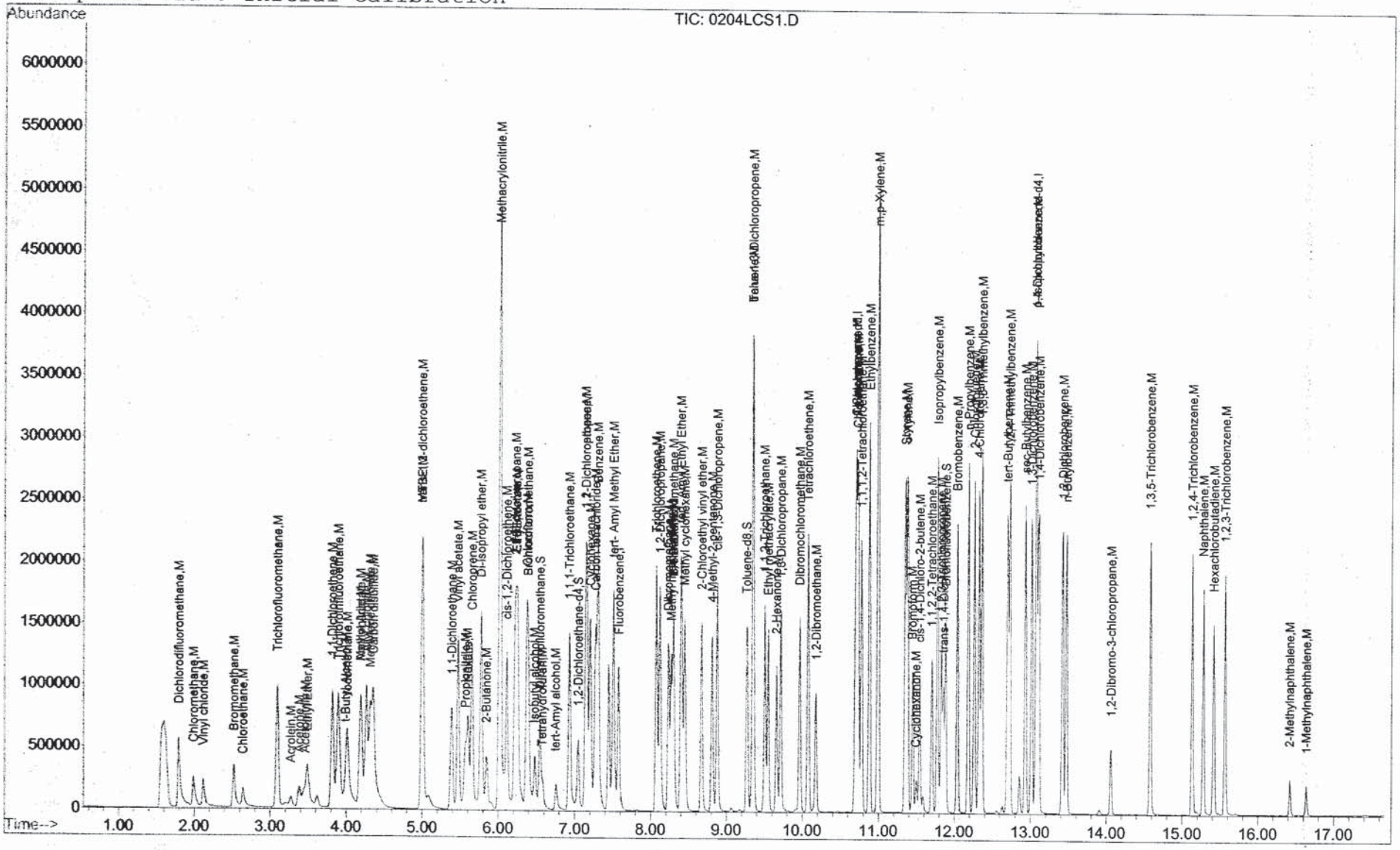
(#) = qualifier out of range (m) = manual integration

Data File : D:\DATA\020415V6\0204LCS1.D
Acq On : 4 Feb 2015 8:23 am
Sample : 5B04008-BS1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:40 2015

Vial: 3
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\DATA\020415V6\0204BLK1.D
Acq On : 4 Feb 2015 10:14 am
Sample : 5B04008-BLK1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:45 2015

Vial: 7
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.58	96	940762	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.69	82	400416	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.08	152	401868	30.00	ug/L	-0.01
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	379489	29.93	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 99.77%			
42) 1,2-Dichloroethane-d4	7.04	102	63553	28.57	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 95.23%			
61) Toluene-d8	9.27	98	886322	30.00	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 100.00%			
82) Bromofluorobenzene	11.88	95	382502	29.85	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 99.50%			
Target Compounds						Qvalue
19) Methylene chloride	4.31	84	1497	0.1436	ug/L #	68
26) Hexane	5.60	57	1041	0.1680	ug/L #	58
35) Chloroform	6.36	83	1693	0.0882	ug/L	95
75) m,p-Xylene	10.99	91	1913	0.0719	ug/L	95
89) 2-Chlorotoluene	12.33	91	1330	0.0517	ug/L	93
94) sec-Butylbenzene	12.93	105	2084	0.0706	ug/L #	71
95) 1,3-Dichlorobenzene	13.02	146	1123	0.0595	ug/L	84
96) 1,4-Dichlorobenzene	13.10	146	1727	0.0906	ug/L	96
97) p-Isopropyltoluene	13.08	119	1810	0.0760	ug/L #	1
99) n-Butylbenzene	13.47	91	1696	0.0751	ug/L	92
101) 1,3,5-Trichlorobenzene	14.58	180	1386	0.1037	ug/L #	70
102) 1,2,4-Trichlorobenzene	15.14	180	1447	0.1166	ug/L	96
103) Naphthalene	15.27	128	1096	0.6367	ug/L	100
104) Hexachlorobutadiene	15.42	225	2362	0.4083	ug/L #	90
105) 1,2,3-Trichlorobenzene	15.56	180	1074m	0.1012	ug/L	

02/09/15

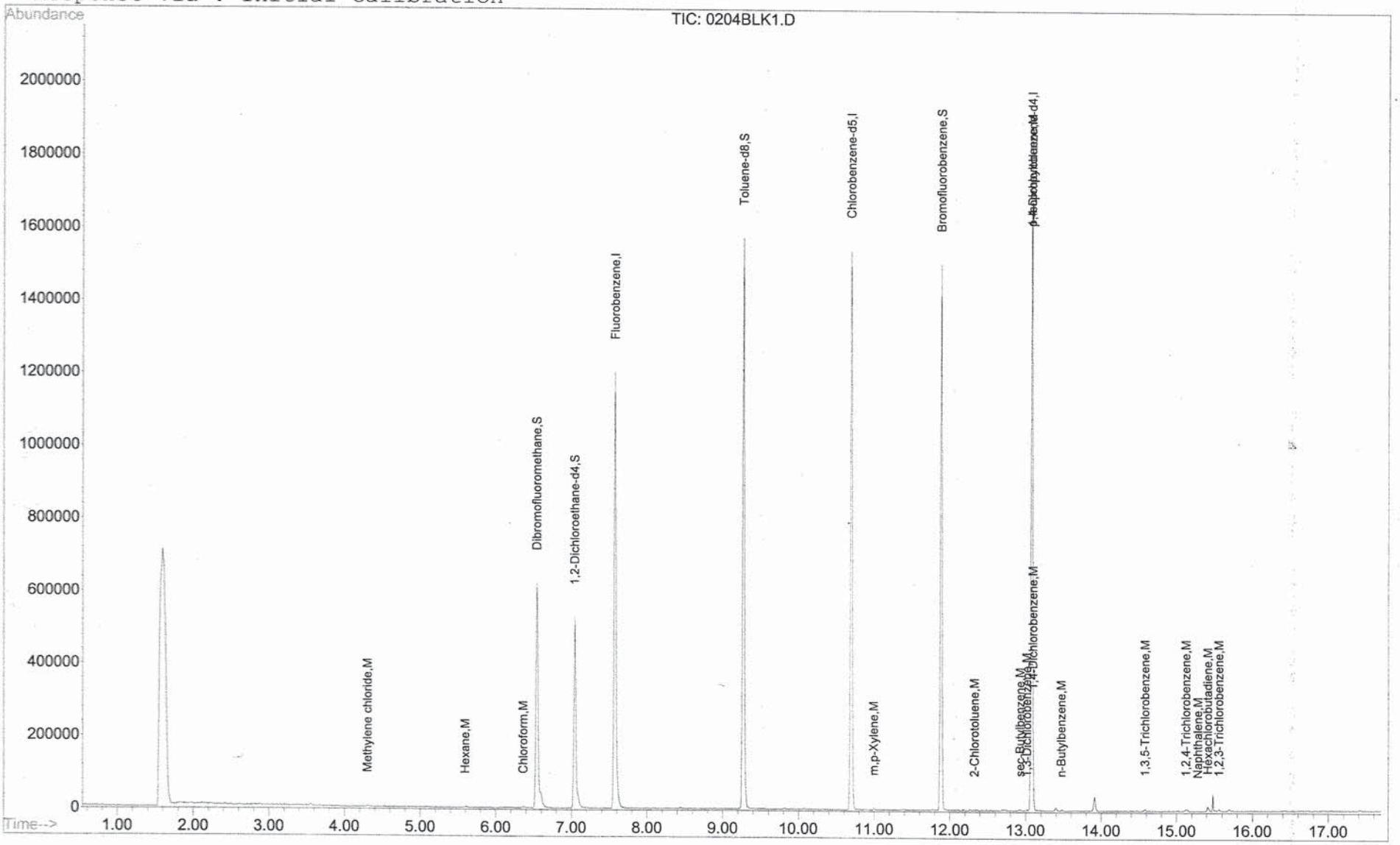
(#) = qualifier out of range (m) = manual integration

Data File : D:\DATA\020415V6\0204BLK1.D
Acq On : 4 Feb 2015 10:14 am
Sample : 5B04008-BLK1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:45 2015

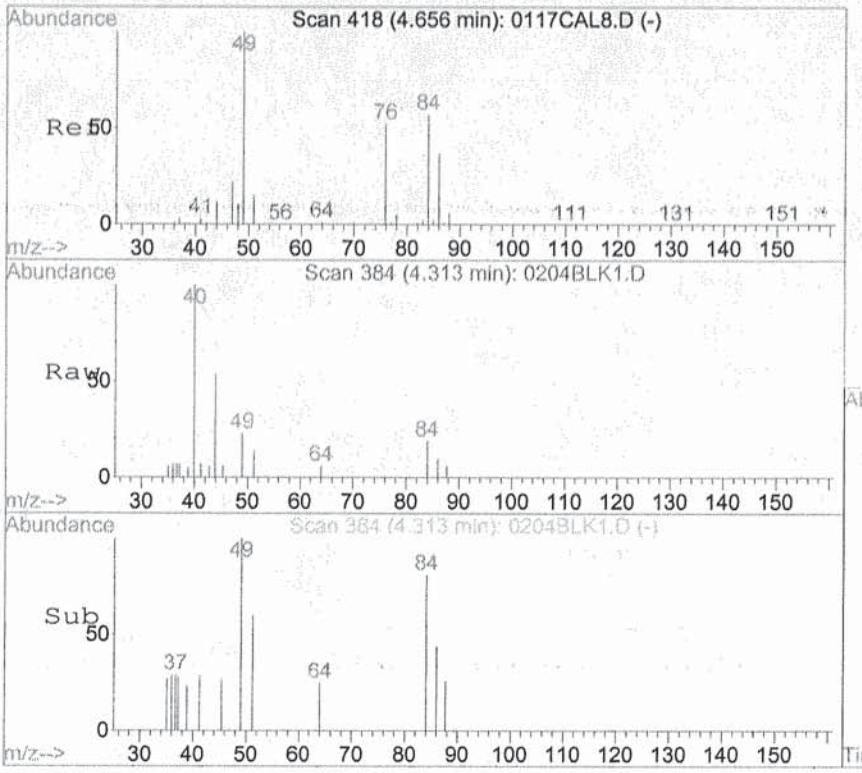
Vial: 7
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration



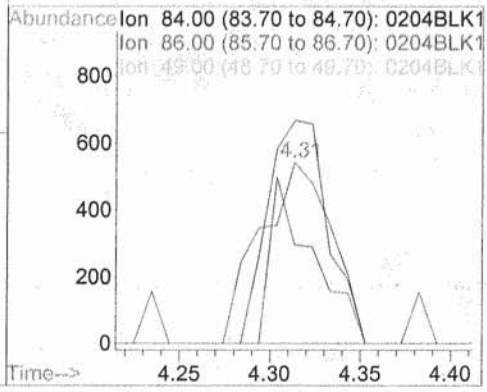
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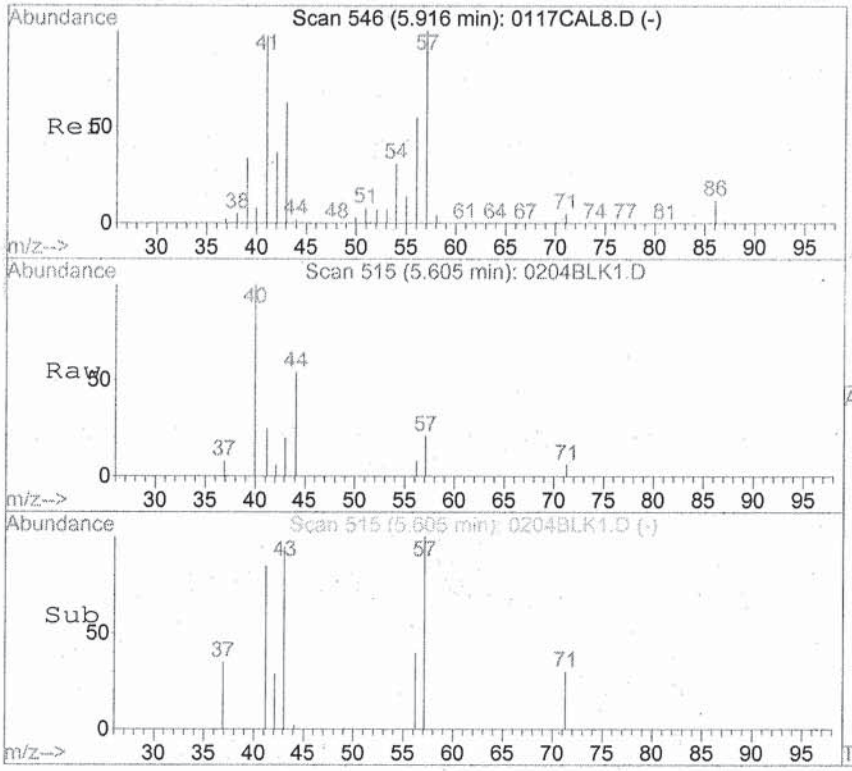


#19
Methylene chloride
Concen: 0.14 ug/L
RT: 4.31 min Scan# 384
Delta R.T. -0.00 min
Lab File: 0204BLK1.D
Acq: 4 Feb 2015 10:14 am

Tgt Ion: 84 Resp: 1497

Ion	Ratio	Lower	Upper
84	100		
86	55.1	54.3	81.5
49	104.1	124.5	186.7#

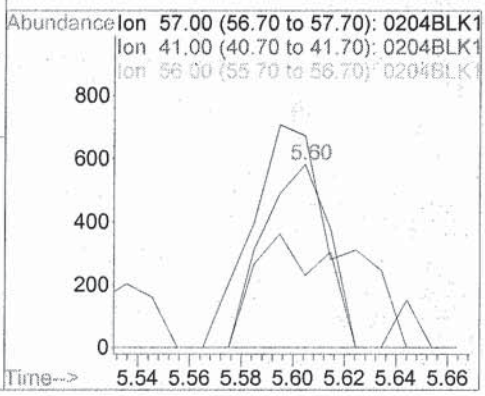


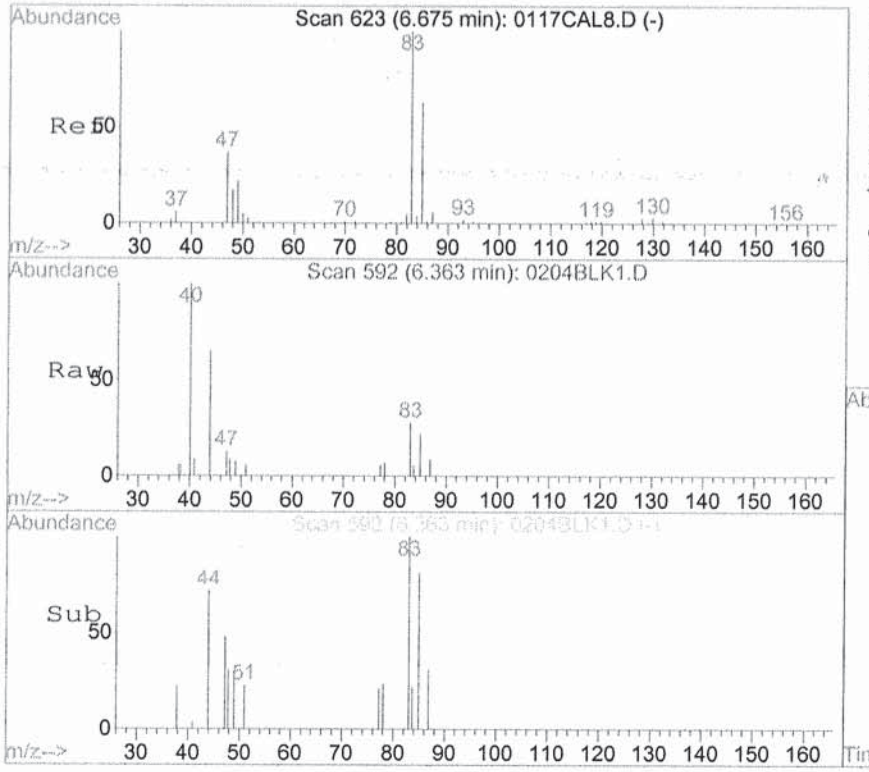


#26
Hexane
Concen: 0.17 ug/L
RT: 5.60 min Scan# 515
Delta R.T. 0.01 min
Lab File: 0204BLK1.D
Acq: 4 Feb 2015 10:14 am

Tgt Ion: 57 Resp: 1041

Ion	Ratio	Lower	Upper
57	100		
41	160.2	83.0	124.6#
56	66.0	43.0	64.6#

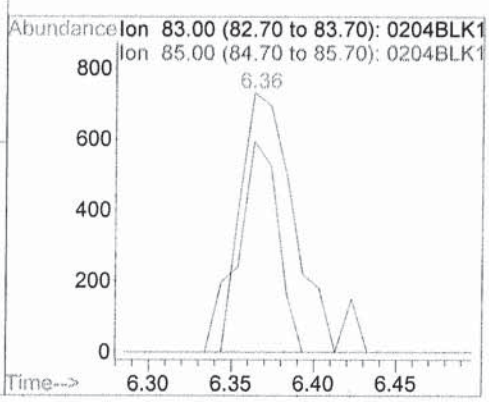


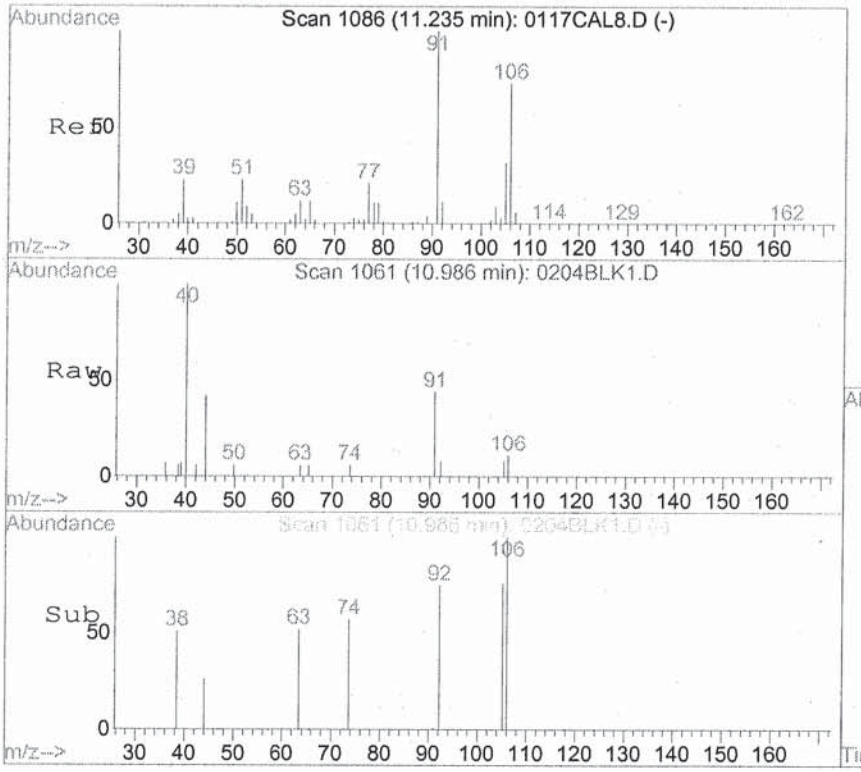


#35
Chloroform
Concen: 0.09 ug/L
RT: 6.36 min Scan# 592
Delta R.T. -0.00 min
Lab File: 0204BLK1.D
Acq: 4 Feb 2015 10:14 am

Tgt Ion: 83 Resp: 1693

Ion	Ratio	Lower	Upper
83	100		
85	60.1	51.3	76.9

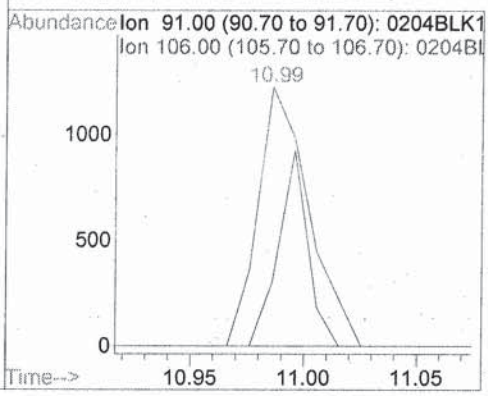


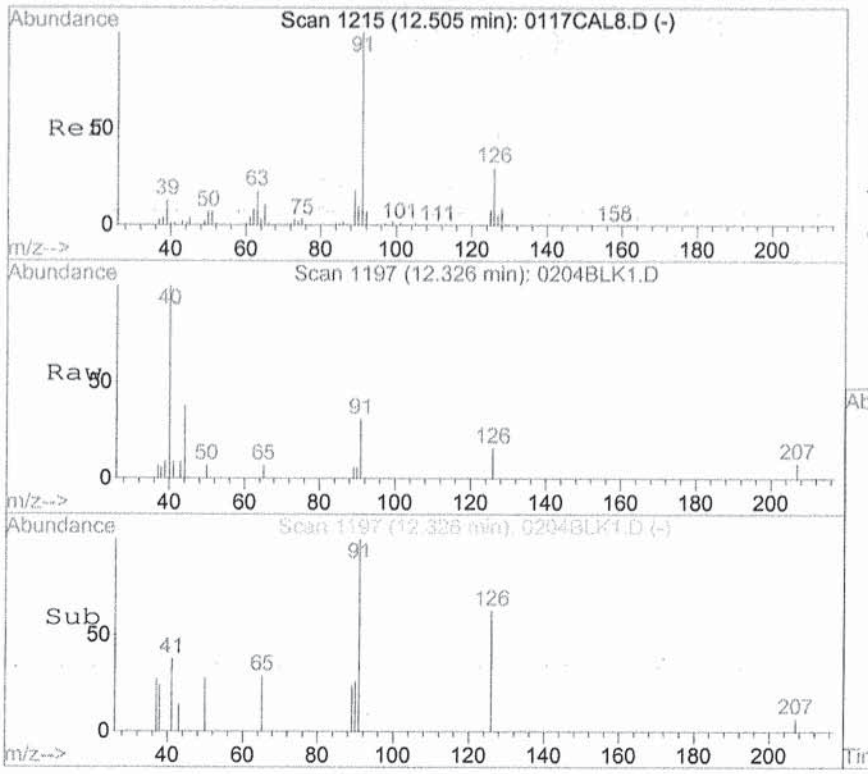


#75
m,p-Xylene
Concen: 0.07 ug/L
RT: 10.99 min Scan# 1061
Delta R.T. -0.01 min
Lab File: 0204BLK1.D
Acq: 4 Feb 2015 10:14 am

Tgt Ion: 91 Resp: 1913

Ion	Ratio	Lower	Upper
91	100		
106	43.5	32.2	48.2

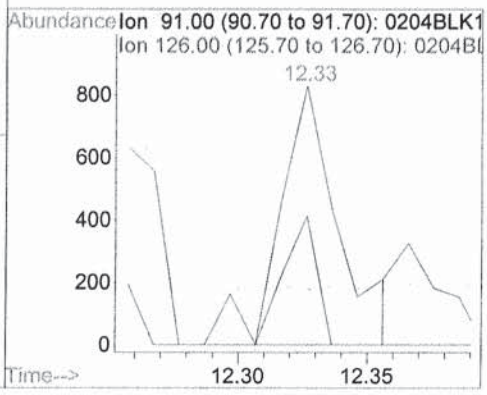


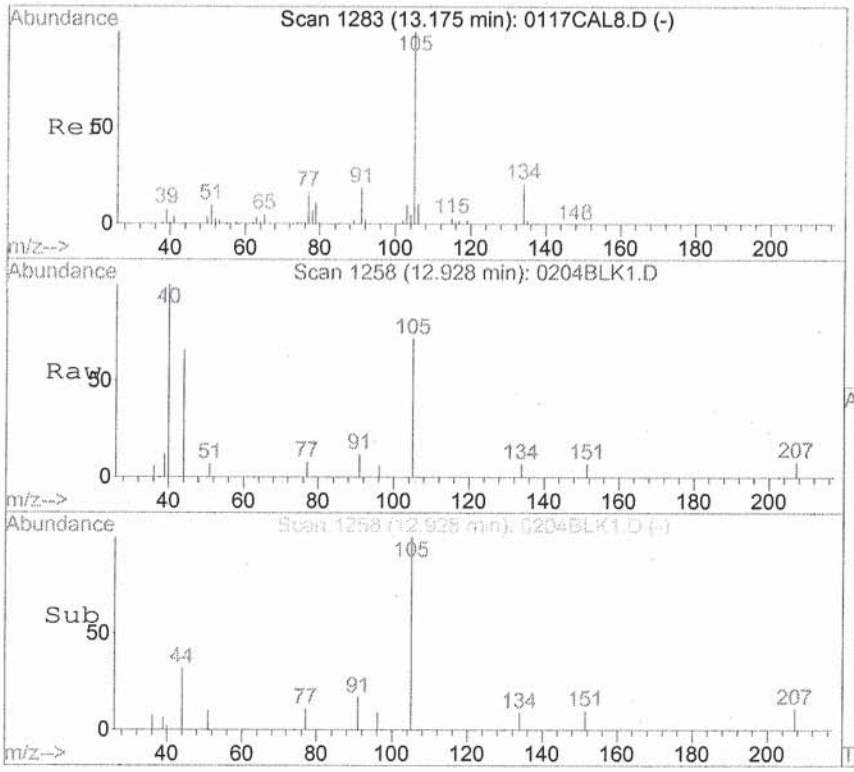


#89
2-Chlorotoluene
Concen: 0.05 ug/L
RT: 12.33 min Scan# 1197
Delta R.T. 0.06 min
Lab File: 0204BLK1.D
Acq: 4 Feb 2015 10:14 am

Tgt Ion: 91 Resp: 1330

Ion	Ratio	Lower	Upper
91	100		
126	28.2	25.8	38.8

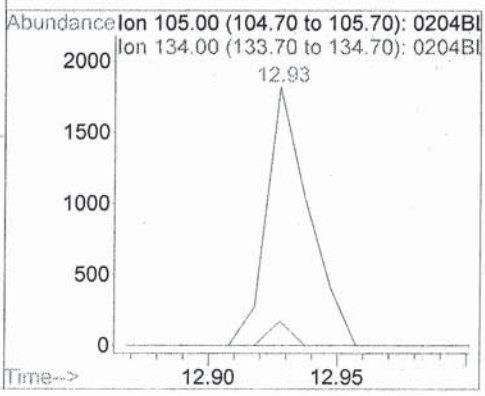


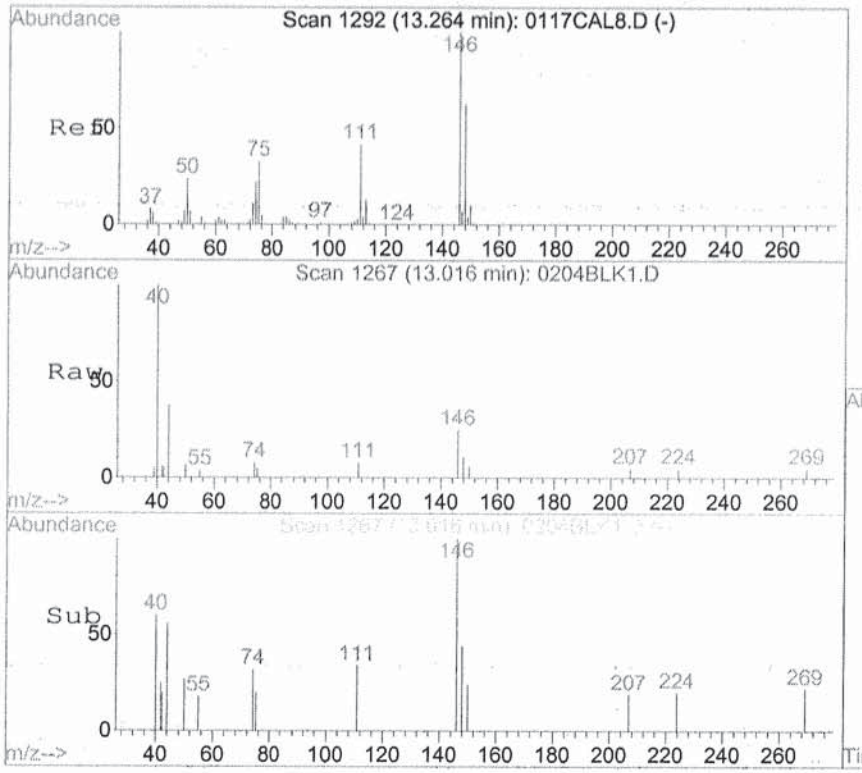


#94
sec-Butylbenzene
Concen: 0.07 ug/L
RT: 12.93 min Scan# 1258
Delta R.T. -0.01 min
Lab File: 0204BLK1.D
Acq: 4 Feb 2015 10:14 am

Tgt Ion:105 Resp: 2084

Ion	Ratio	Lower	Upper
105	100		
134	4.8	14.0	21.0#

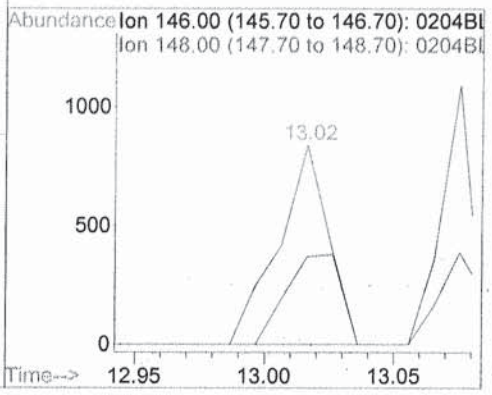


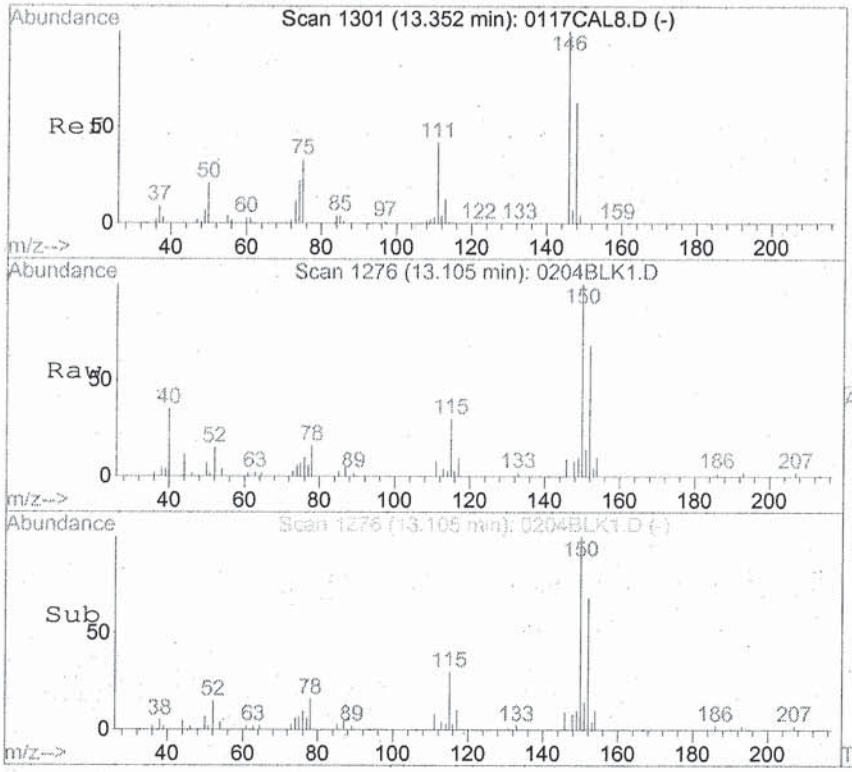


#95
1,3-Dichlorobenzene
Concen: 0.06 ug/L
RT: 13.02 min Scan# 1267
Delta R.T. -0.00 min
Lab File: 0204BLK1.D
Acq: 4 Feb 2015 10:14 am

Tgt Ion:146 Resp: 1123

Ion	Ratio	Lower	Upper
146	100		
148	49.5	49.4	74.2

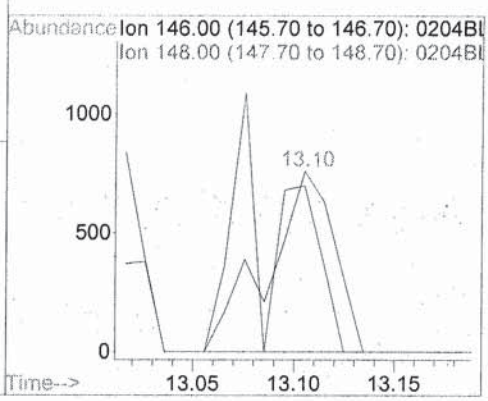


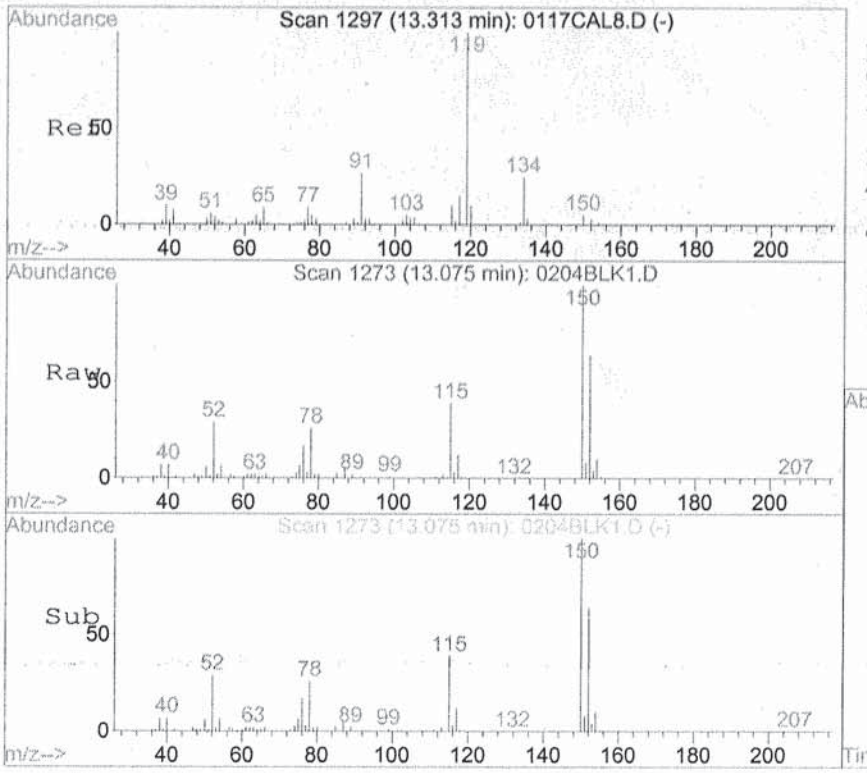


#96
1,4-Dichlorobenzene
Concen: 0.09 ug/L
RT: 13.10 min Scan# 1276
Delta R.T. -0.00 min
Lab File: 0204BLK1.D
Acq: 4 Feb 2015 10:14 am

Tgt Ion:146 Resp: 1727

Ion	Ratio	Lower	Upper
146	100		
148	59.7	50.0	75.0

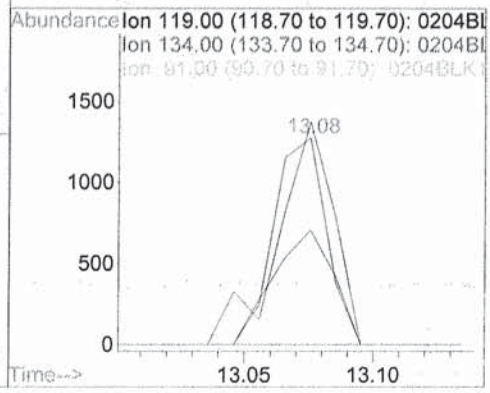


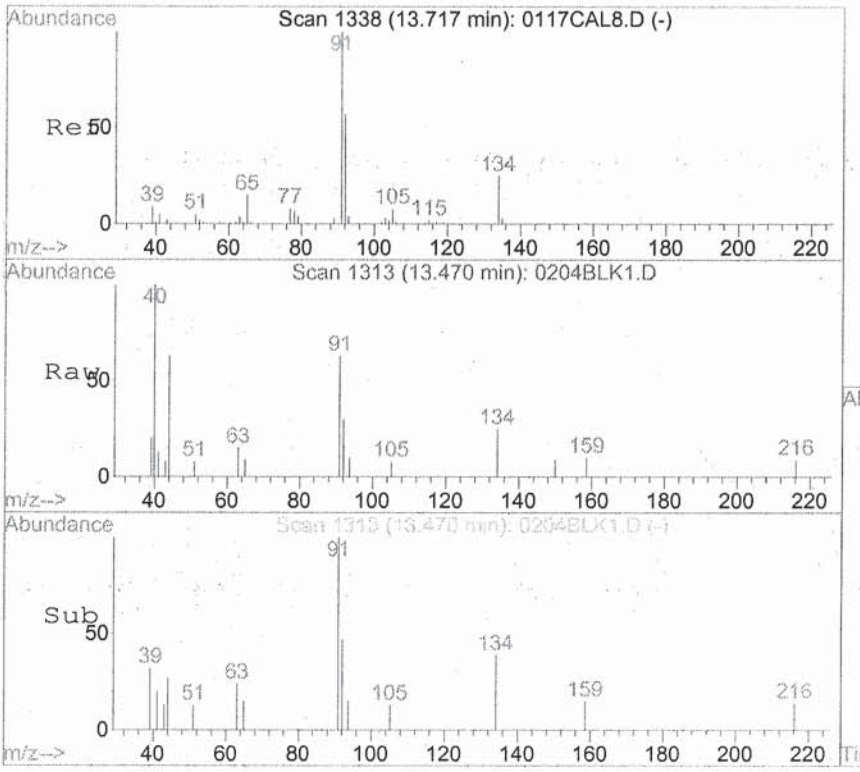


#97
p-Isopropyltoluene
Concen: 0.08 ug/L
RT: 13.08 min Scan# 1273
Delta R.T. -0.00 min
Lab File: 0204BLK1.D
Acq: 4 Feb 2015 10:14 am

Tgt Ion:119 Resp: 1810

Ion	Ratio	Lower	Upper
119	100		
134	63.4	19.0	28.4#
91	113.1	23.1	34.7#

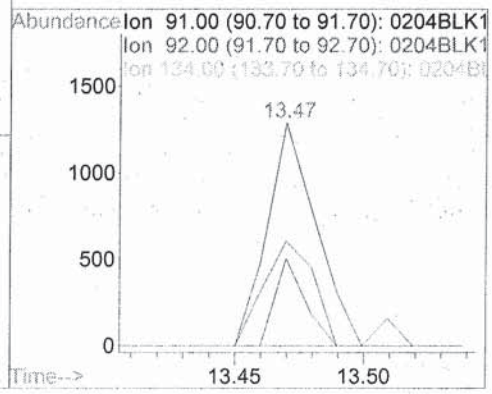


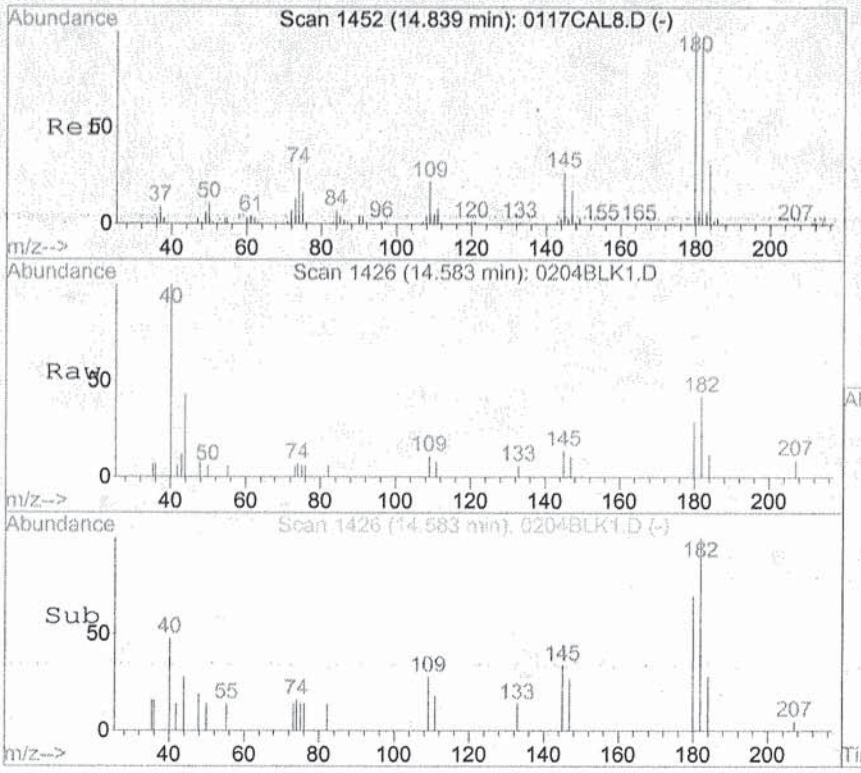


#99
n-Butylbenzene
Concen: 0.08 ug/L
RT: 13.47 min Scan# 1313
Delta R.T. -0.00 min
Lab File: 0204BLK1.D
Acq: 4 Feb 2015 10:14 am

Tgt Ion: 91 Resp: 1696

Ion	Ratio	Lower	Upper
91	100		
92	47.8	45.0	67.4
134	23.9	18.8	28.2

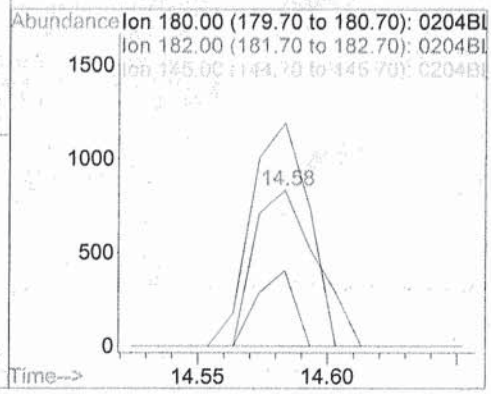


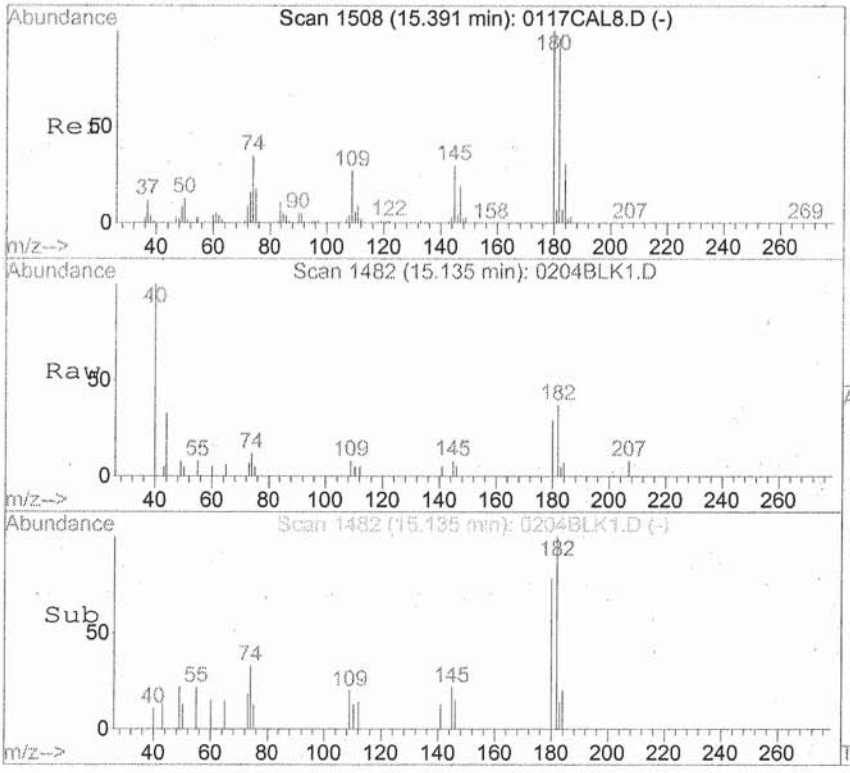


#101
1,3,5-Trichlorobenzene
Concen: 0.10 ug/L
RT: 14.58 min Scan# 1426
Delta R.T. -0.00 min
Lab File: 0204BLK1.D
Acq: 4 Feb 2015 10:14 am

Tgt Ion:180 Resp: 1386

Ion	Ratio	Lower	Upper
180	100		
182	132.4	76.2	114.2#
145	29.4	22.6	34.0

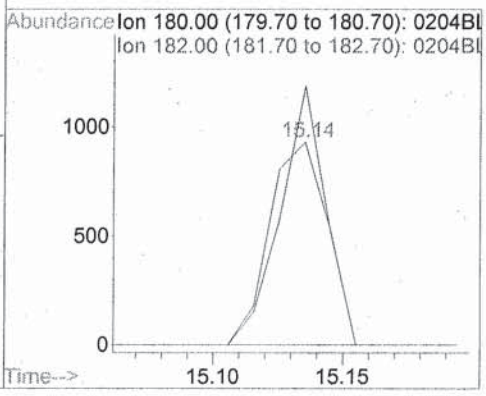


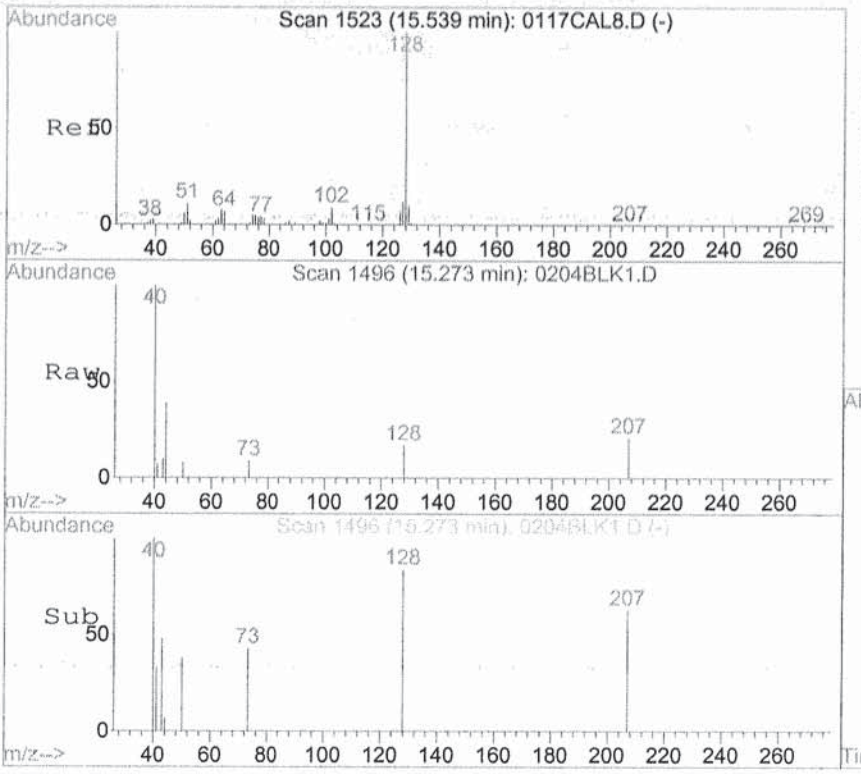


#102
1,2,4-Trichlorobenzene
Concen: 0.12 ug/L
RT: 15.14 min Scan# 1482
Delta R.T. -0.00 min
Lab File: 0204BLK1.D
Acq: 4 Feb 2015 10:14 am

Tgt Ion:180 Resp: 1447

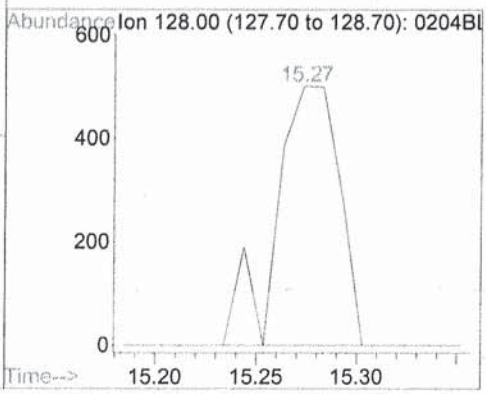
Ion	Ratio	Lower	Upper
180	100		
182	99.6	76.5	114.7

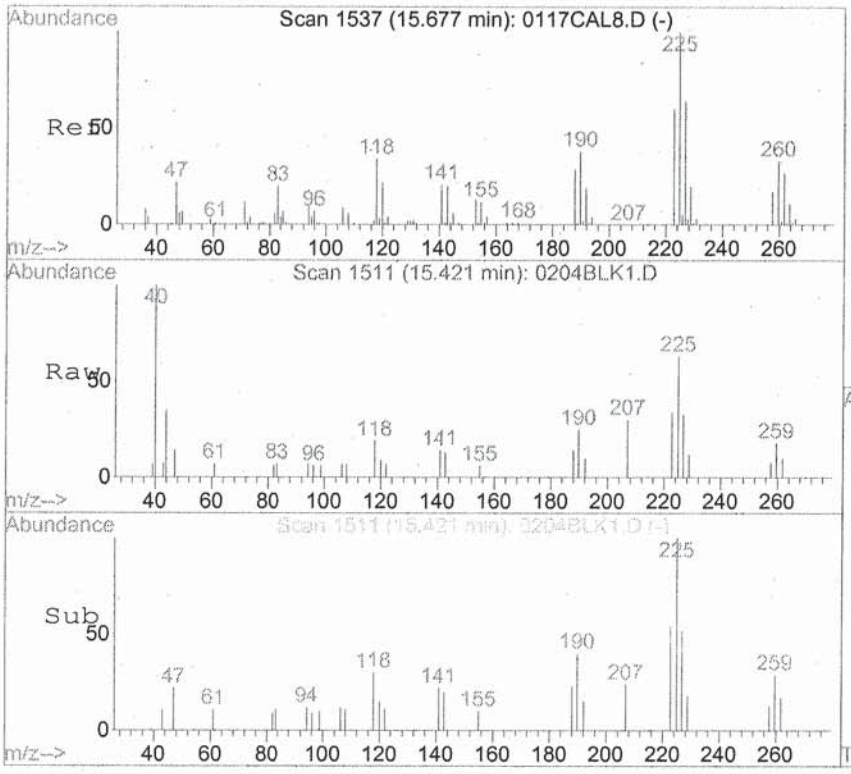




#103
Naphthalene
Concen: 0.64 ug/L
RT: 15.27 min Scan# 1496
Delta R.T. -0.01 min
Lab File: 0204BLK1.D
Acq: 4 Feb 2015 10:14 am

Tgt Ion:128 Resp: 1096

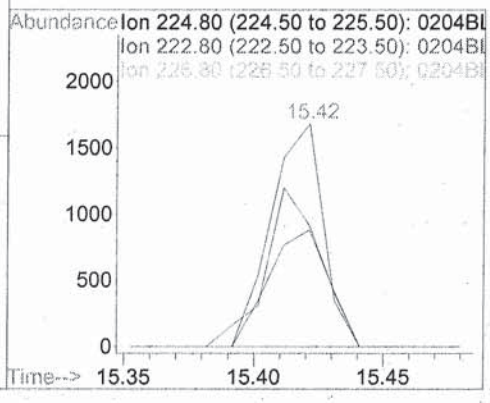




#104
Hexachlorobutadiene
Concen: 0.41 ug/L
RT: 15.42 min Scan# 1511
Delta R.T. 0.01 min
Lab File: 0204BLK1.D
Acq: 4 Feb 2015 10:14 am

Tgt Ion:225 Resp: 2362

Ion	Ratio	Lower	Upper
225	100		
223	74.7	49.3	73.9#
227	60.3	50.4	75.6

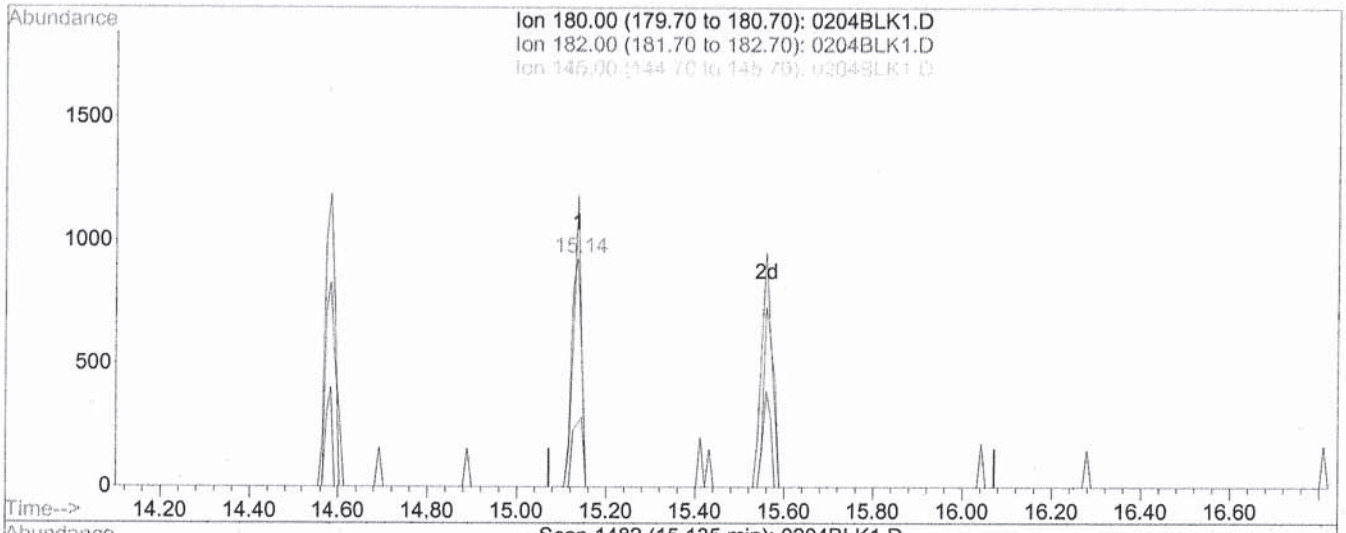


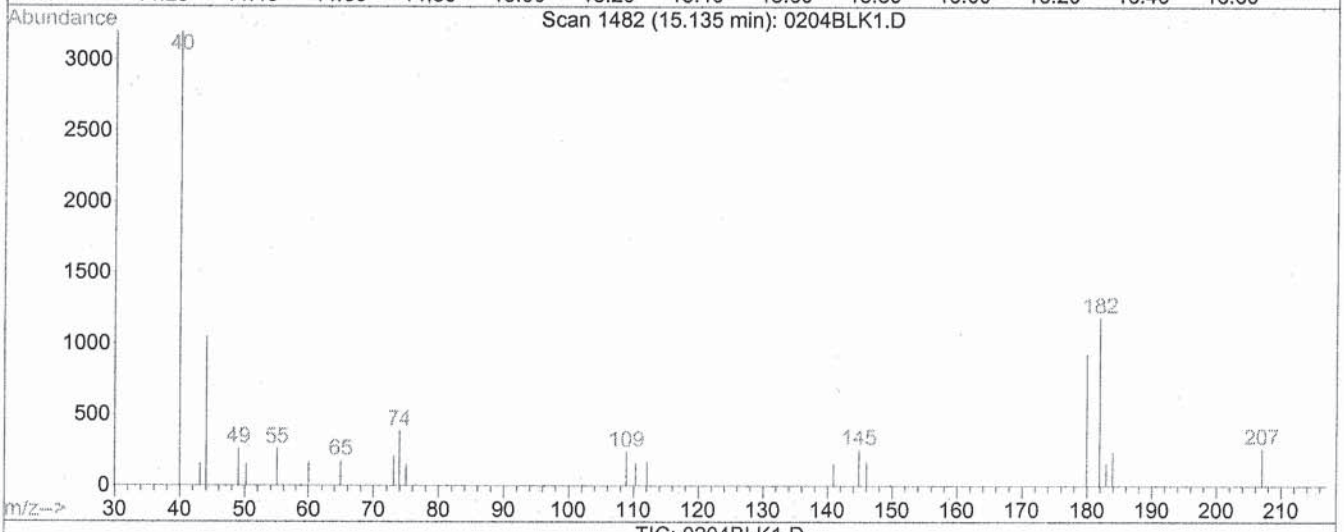
Quantitation Report (Qedit)

Data File : D:\DATA\020415V6\0204BLK1.D
Acq On : 4 Feb 2015 10:14 am
Sample : 5B04008-BLK1
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:45 2015

Vial: 7
Operator:
Inst : NSH-VOA6
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Multiple Level Calibration





TIC: 0204BLK1.D

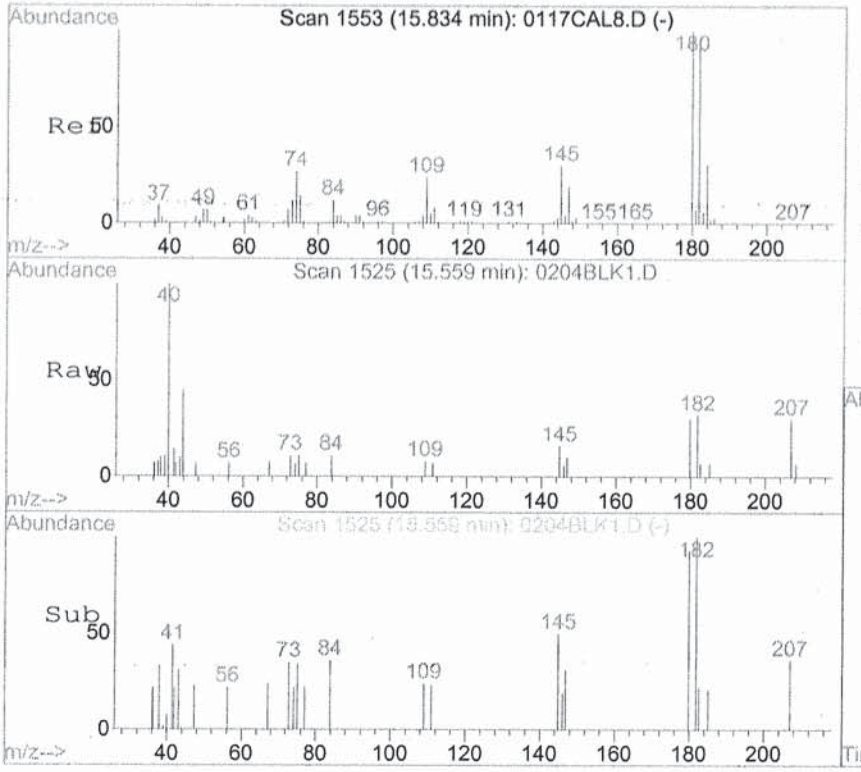
(105) 1,2,3-Trichlorobenzene (M)

15.14min 0.14ug/L

response 1447

Ion	Exp%	Act%
180.00	100	100
182.00	95.10	99.59
145.00	30.20	31.58
0.00	0.00	0.00

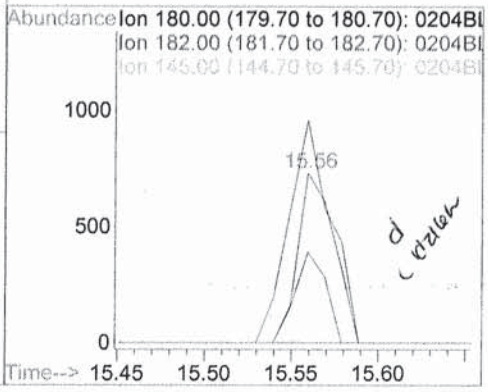
0204BLK1.D 020215W6.M Fri Feb 06 10:45:31 2015



#105
1,2,3-Trichlorobenzene
Concen: 0.10 ug/L m
RT: 15.56 min Scan# 1525
Delta R.T. -0.01 min
Lab File: 0204BLK1.D
Acq: 4 Feb 2015 10:14 am

Tgt Ion:180 Resp: 1074

Ion	Ratio	Lower	Upper
180	100		
182	134.2	76.1	114.1#
145	42.6	24.2	36.2#



Quantitation Report (QT Reviewed)

Data File : D:\DATA\020415V6\0111601A.D
Acq On : 4 Feb 2015 10:42 am
Sample : 1501116-01
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:47 2015

Vial: 8
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.58	96	973363	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.69	82	424276	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.08	152	406477	30.00	ug/L	0.00
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	385328	29.37	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 97.90%			
42) 1,2-Dichloroethane-d4	7.05	102	68155	29.61	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 98.70%			
61) Toluene-d8	9.27	98	933732	29.83	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 99.43%			
82) Bromofluorobenzene	11.89	95	403172	29.69	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 98.97%			
Target Compounds						Qvalue
35) Chloroform	6.38	83	1750	0.0881	ug/L	88
94) sec-Butylbenzene	12.93	105	1554	0.0520	ug/L #	87
97) p-Isopropyltoluene	13.07	119	1526	0.0633	ug/L #	1
101) 1,3,5-Trichlorobenzene	14.58	180	1032	0.0763	ug/L #	72
102) 1,2,4-Trichlorobenzene	15.14	180	1032	0.0822	ug/L	91
103) Naphthalene	15.28	128	1046	0.6344	ug/L	100
104) Hexachlorobutadiene	15.42	225	1704	0.2912	ug/L	93

02/09/15

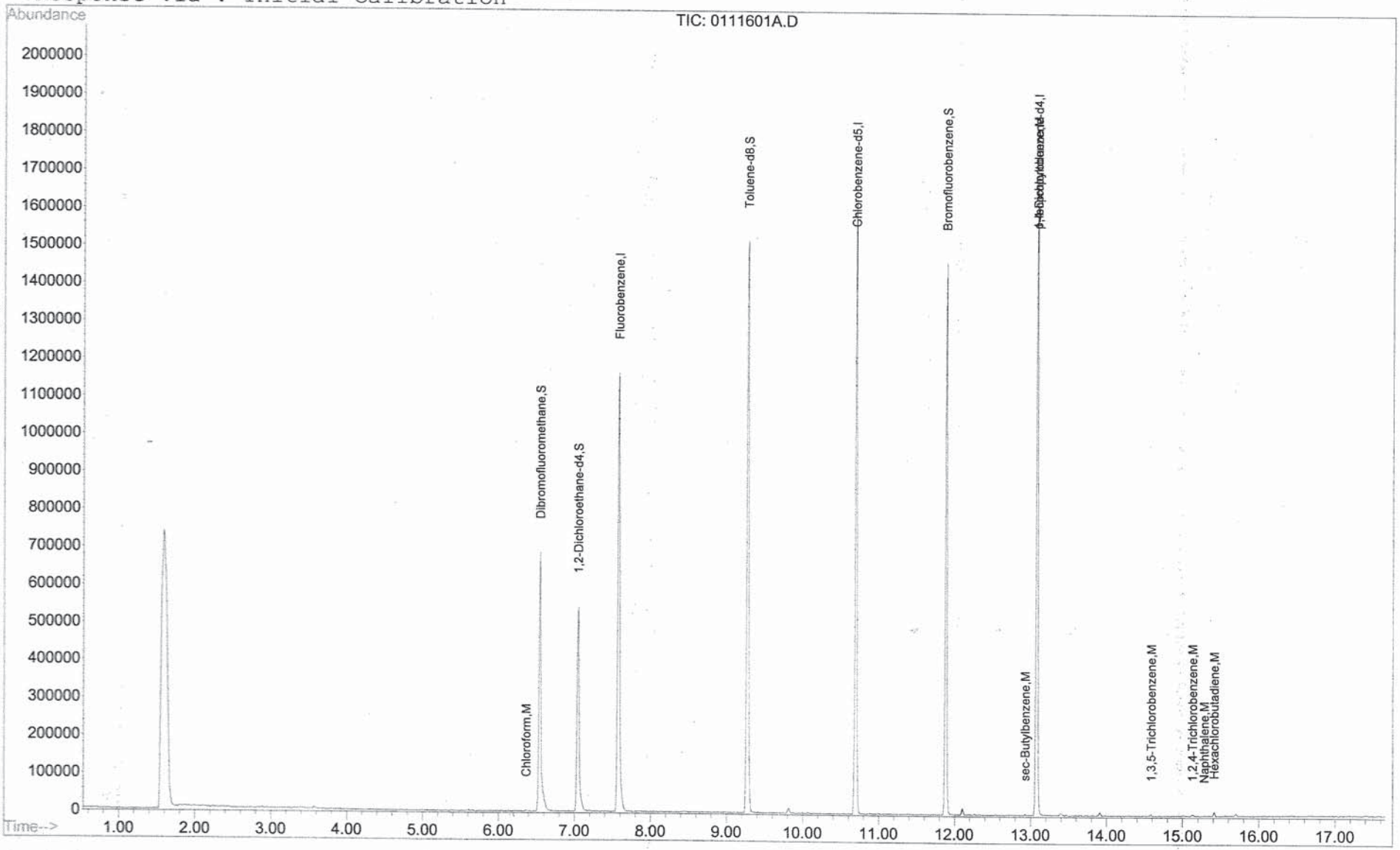
(#) = qualifier out of range (m) = manual integration

Data File : D:\DATA\020415V6\0111601A.D
Acq On : 4 Feb 2015 10:42 am
Sample : 1501116-01
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:47 2015

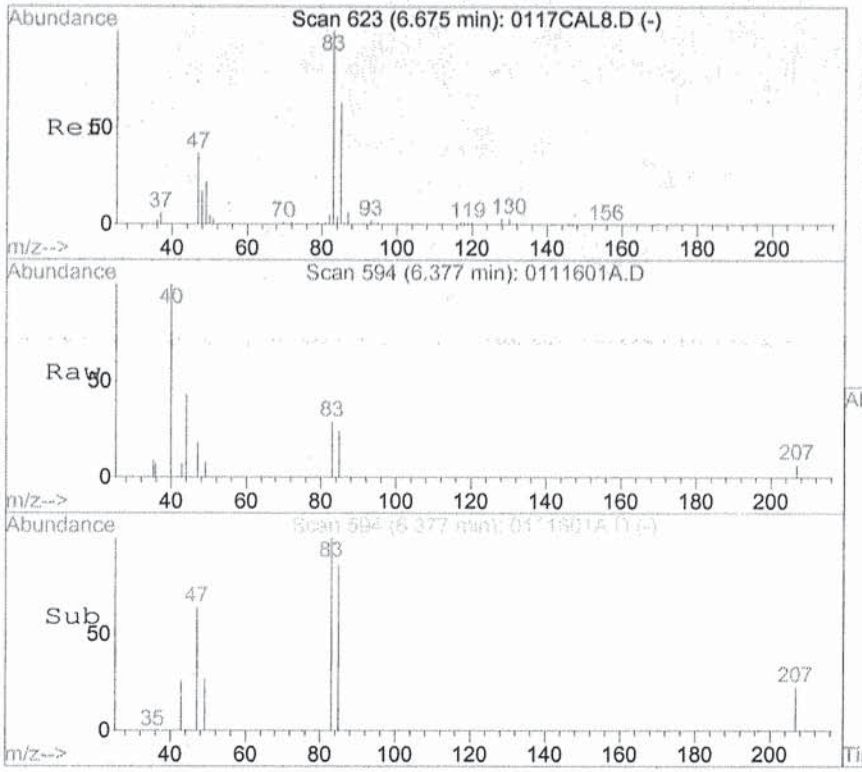
Vial: 8
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration

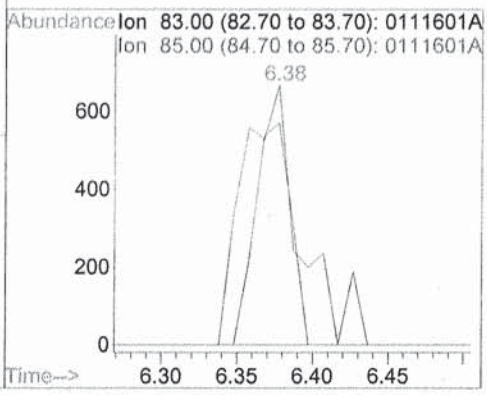


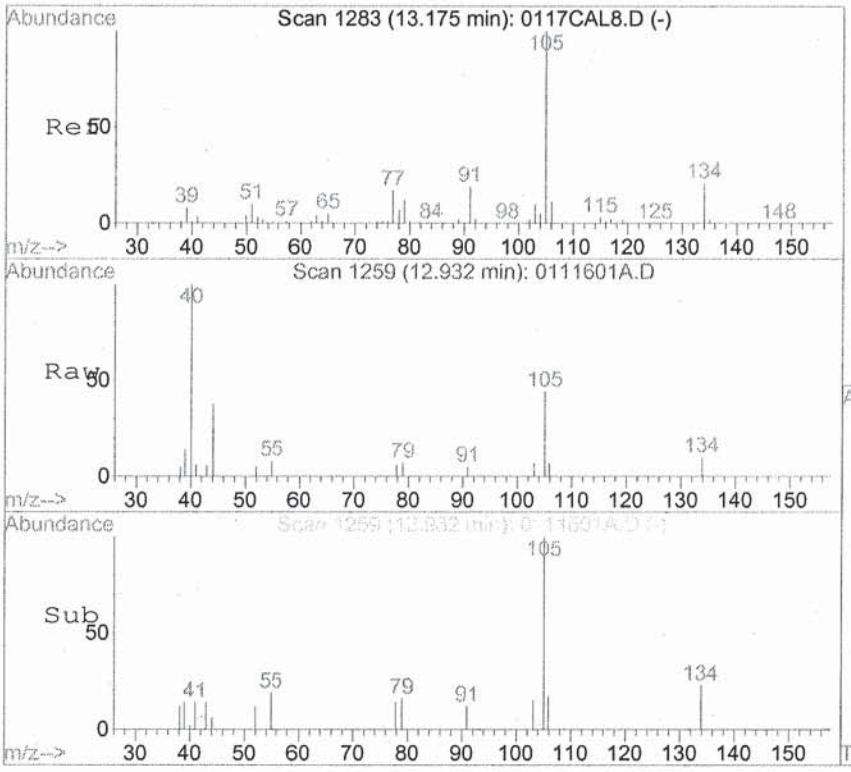
177
1501116



#35
Chloroform
Concen: 0.09 ug/L
RT: 6.38 min Scan# 594
Delta R.T. 0.01 min
Lab File: 0111601A.D
Acq: 4 Feb 2015 10:42 am

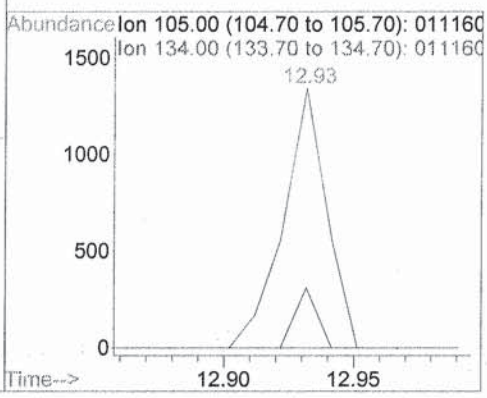
Tgt Ion: 83	Resp:	1750	
Ion	Ratio	Lower	Upper
83	100		
85	54.7	51.3	76.9

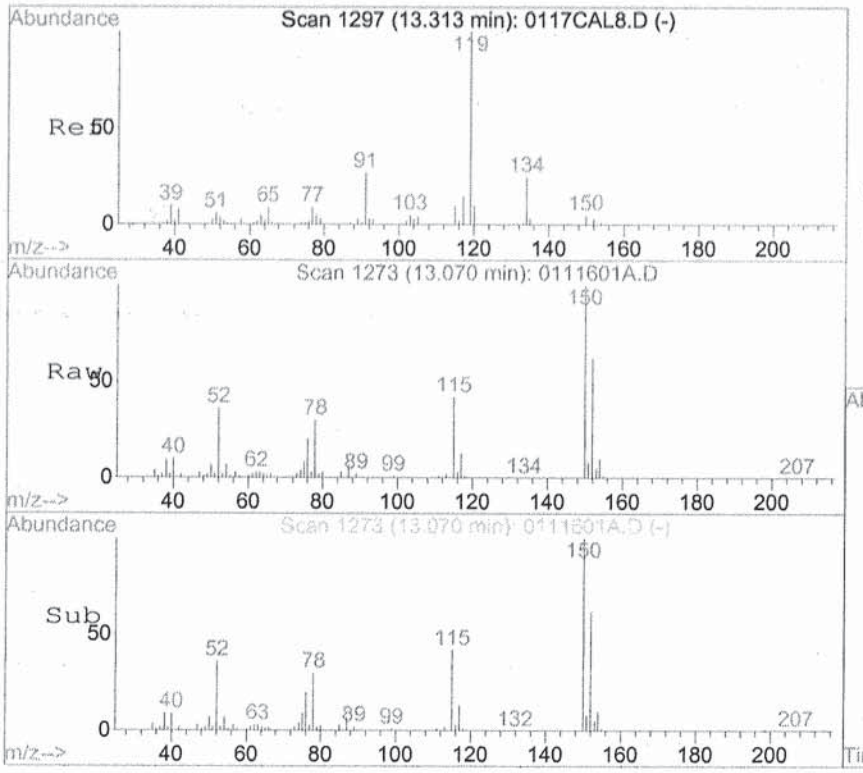




#94
sec-Butylbenzene
Concen: 0.05 ug/L
RT: 12.93 min Scan# 1259
Delta R.T. -0.01 min
Lab File: 0111601A.D
Acq: 4 Feb 2015 10:42 am

Tgt Ion:105	Resp:	1554	
Ion	Ratio	Lower	Upper
105	100		
134	11.8	14.0	21.0#

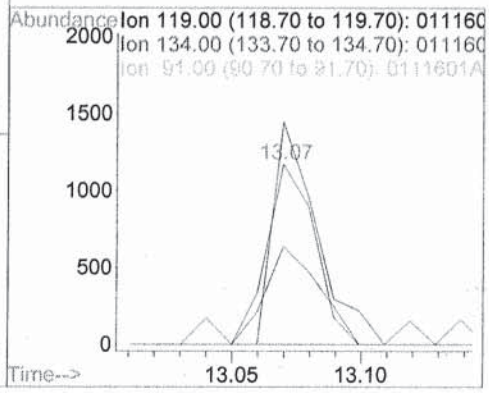


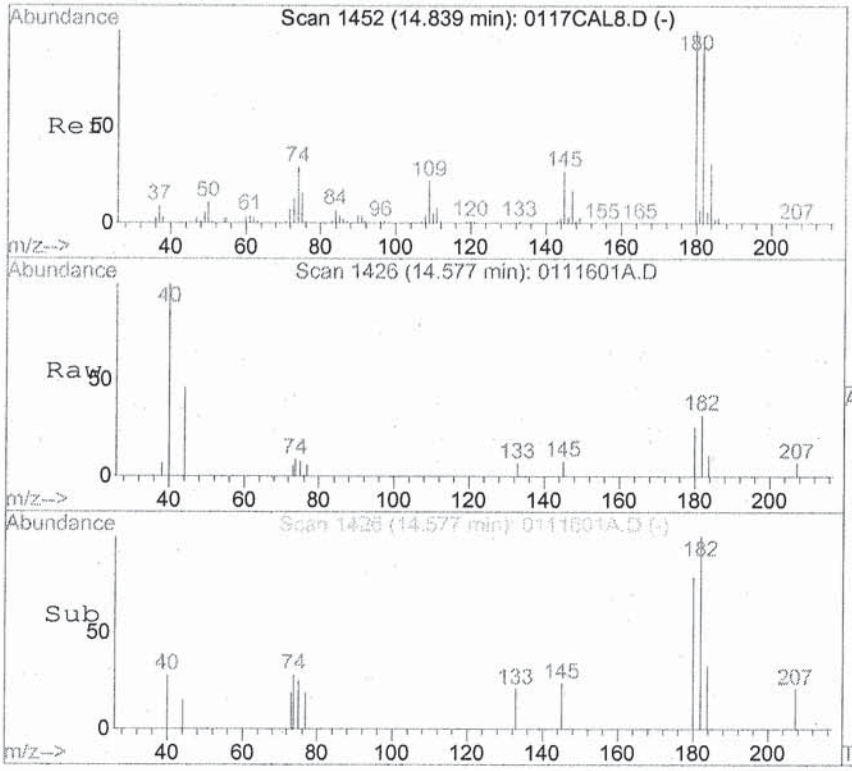


#97
p-Isopropyltoluene
Concen: 0.06 ug/L
RT: 13.07 min Scan# 1273
Delta R.T. -0.01 min
Lab File: 0111601A.D
Acq: 4 Feb 2015 10:42 am

Tgt Ion:119 Resp: 1526

Ion	Ratio	Lower	Upper
119	100		
134	60.9	19.0	28.4#
91	119.6	23.1	34.7#

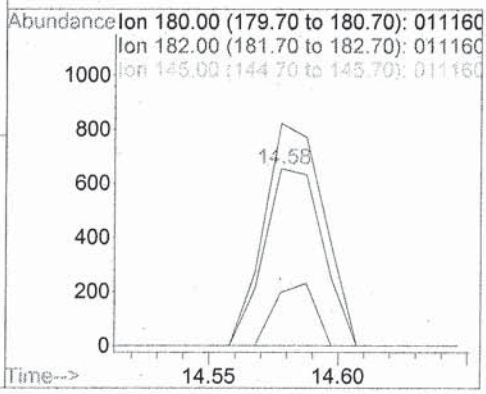


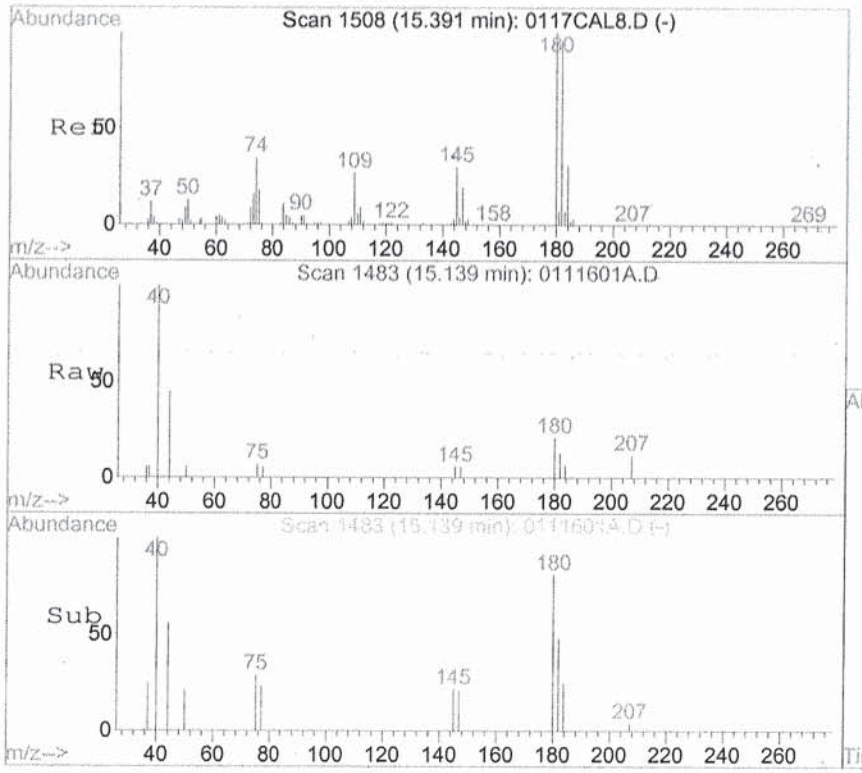


#101
1,3,5-Trichlorobenzene
Concen: 0.08 ug/L
RT: 14.58 min Scan# 1426
Delta R.T. -0.01 min
Lab File: 0111601A.D
Acq: 4 Feb 2015 10:42 am

Tgt Ion:180 Resp: 1032

Ion	Ratio	Lower	Upper
180	100		
182	128.0	76.2	114.2#
145	24.3	22.6	34.0

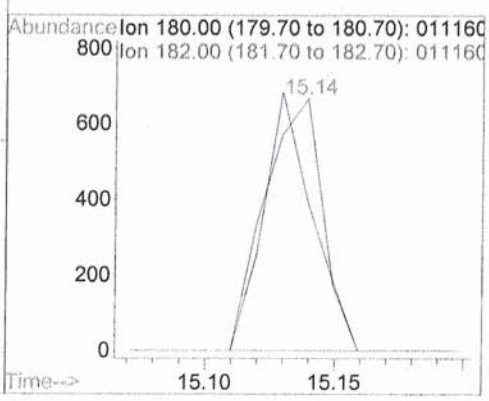


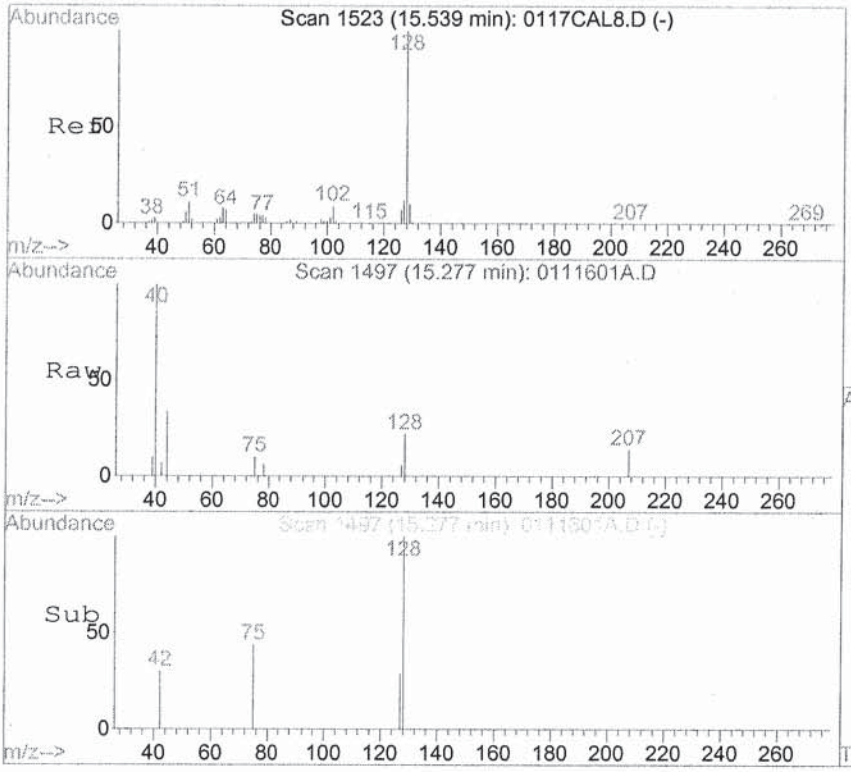


#102
1,2,4-Trichlorobenzene
Concen: 0.08 ug/L
RT: 15.14 min Scan# 1483
Delta R.T. 0.00 min
Lab File: 0111601A.D
Acq: 4 Feb 2015 10:42 am

Tgt Ion:180 Resp: 1032

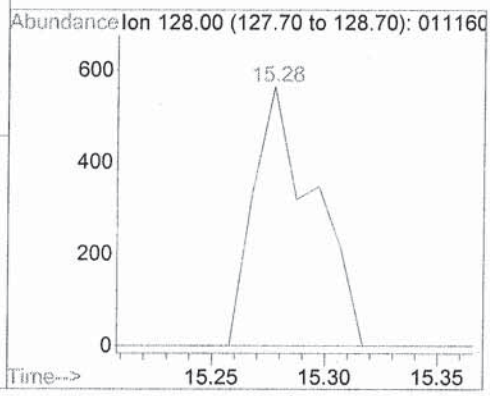
Ion	Ratio	Lower	Upper
180	100		
182	86.9	76.5	114.7

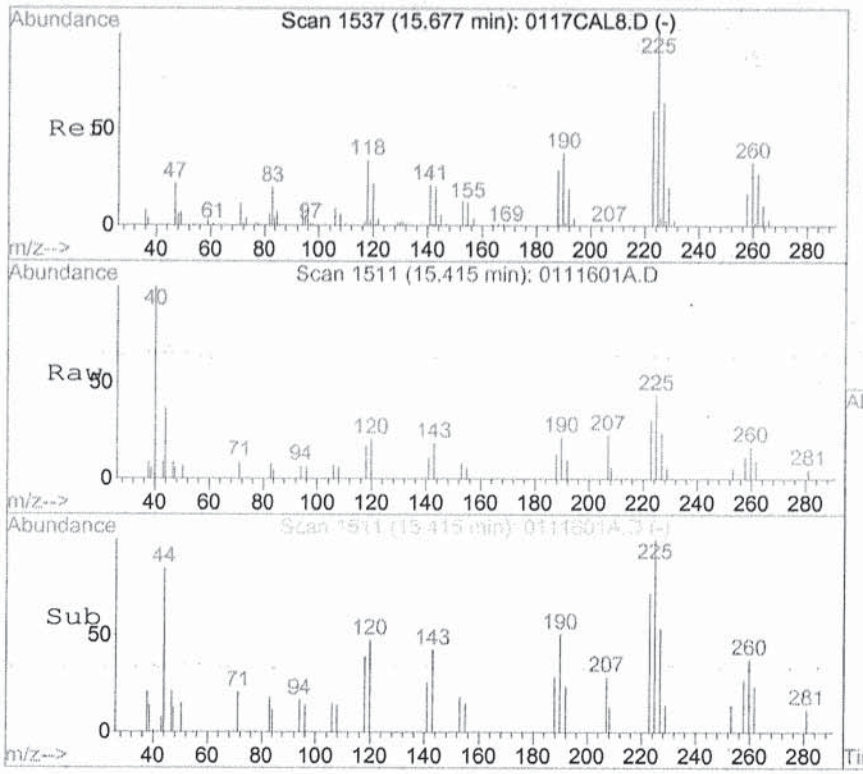




#103
Naphthalene
Concen: 0.63 ug/L
RT: 15.28 min Scan# 1497
Delta R.T. -0.01 min
Lab File: 0111601A.D
Acq: 4 Feb 2015 10:42 am

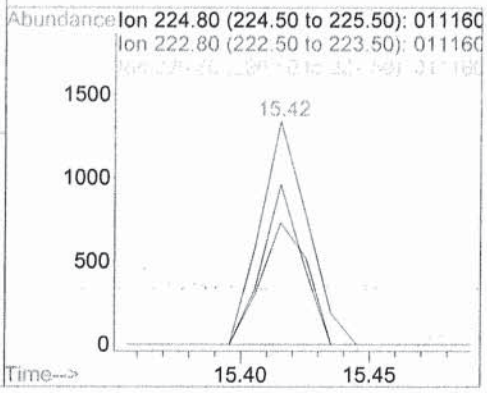
Tgt Ion:128 Resp: 1046





#104
Hexachlorobutadiene
Concen: 0.29 ug/L
RT: 15.42 min Scan# 1511
Delta R.T. 0.00 min
Lab File: 0111601A.D
Acq: 4 Feb 2015 10:42 am

Tgt Ion:225	Resp:	1704
Ion	Ratio	Lower	Upper
225	100		
223	60.3	49.3	73.9
227	53.9	50.4	75.6



Quantitation Report (QT Reviewed)

Data File : D:\DATA\020415V6\0111606A.D Vial: 10
Acq On : 4 Feb 2015 11:37 am Operator:
Sample : 1501116-06 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:51 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.57	96	941209	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.69	82	409628	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.08	152	401993	30.00	ug/L	0.00
System Monitoring Compounds						
38) Dibromofluoromethane	6.55	111	386718	30.48	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 101.60%			
42) 1,2-Dichloroethane-d4	7.05	102	65562	29.46	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 98.20%			
61) Toluene-d8	9.27	98	876721	29.01	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 96.70%			
82) Bromofluorobenzene	11.89	95	392723	29.95	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 99.83%			
Target Compounds						Qvalue
9) Acetone	3.38	43	24554	9.3247	ug/L	94
47) Benzene	7.30	78	1826	0.0577	ug/L #	52
63) Toluene	9.34	92	3184	0.1758	ug/L	99
75) m,p-Xylene	10.99	91	2632	0.0967	ug/L #	68
77) o-Xylene	11.38	91	1841	0.0657	ug/L	97
93) 1,2,4-Trimethylbenzene	12.73	105	2088	0.0701	ug/L	87
97) p-Isopropyltoluene	13.07	119	1300	0.0545	ug/L #	1
103) Naphthalene	15.28	128	2535	0.6897	ug/L	100

02/09/15

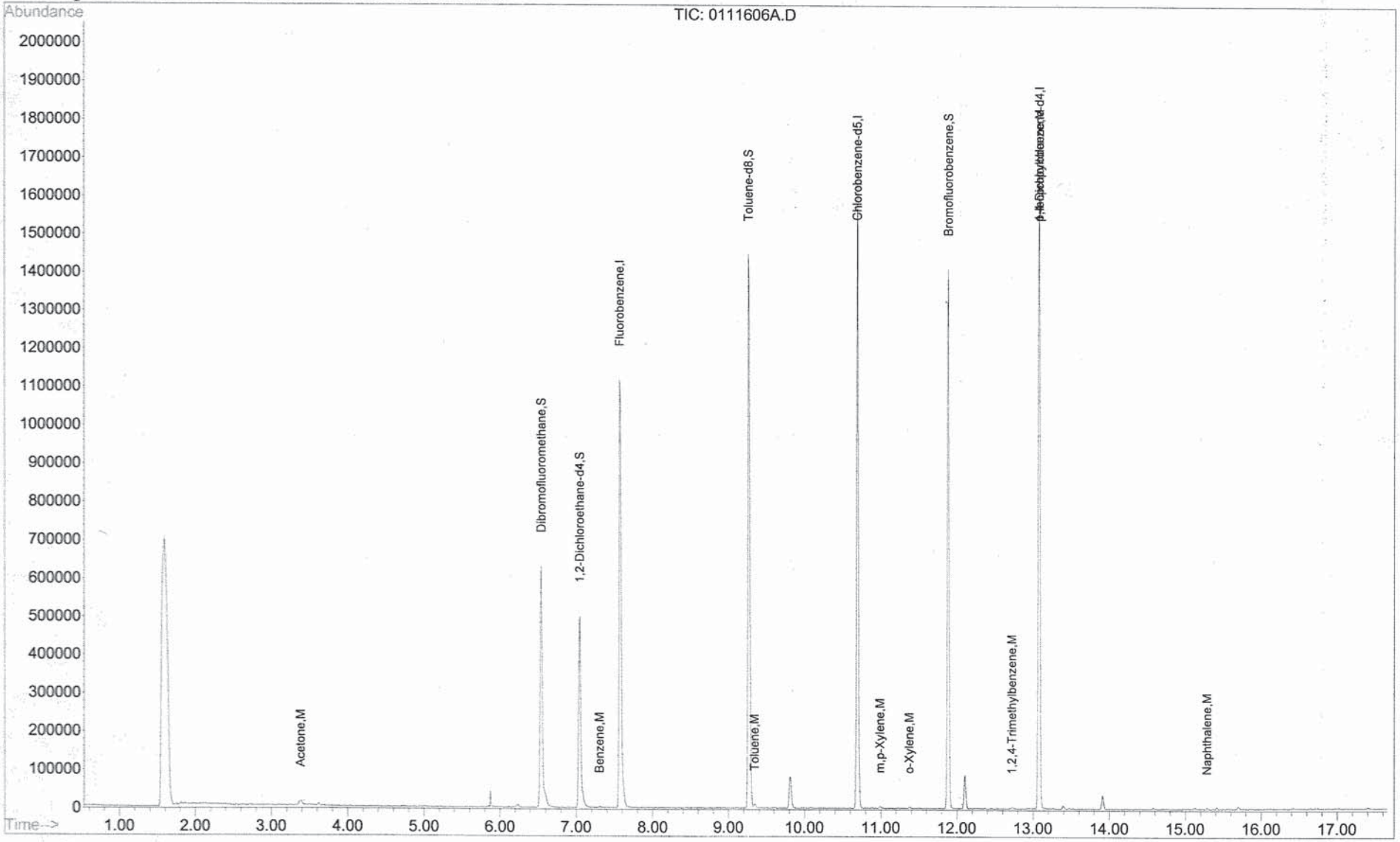
(#) = qualifier out of range (m) = manual integration
0111606A.D 020215W6.M Fri Feb 06 10:51:18 2015 Page 1

Data File : D:\DATA\020415V6\0111606A.D
Acq On : 4 Feb 2015 11:37 am
Sample : 1501116-06
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:51 2015

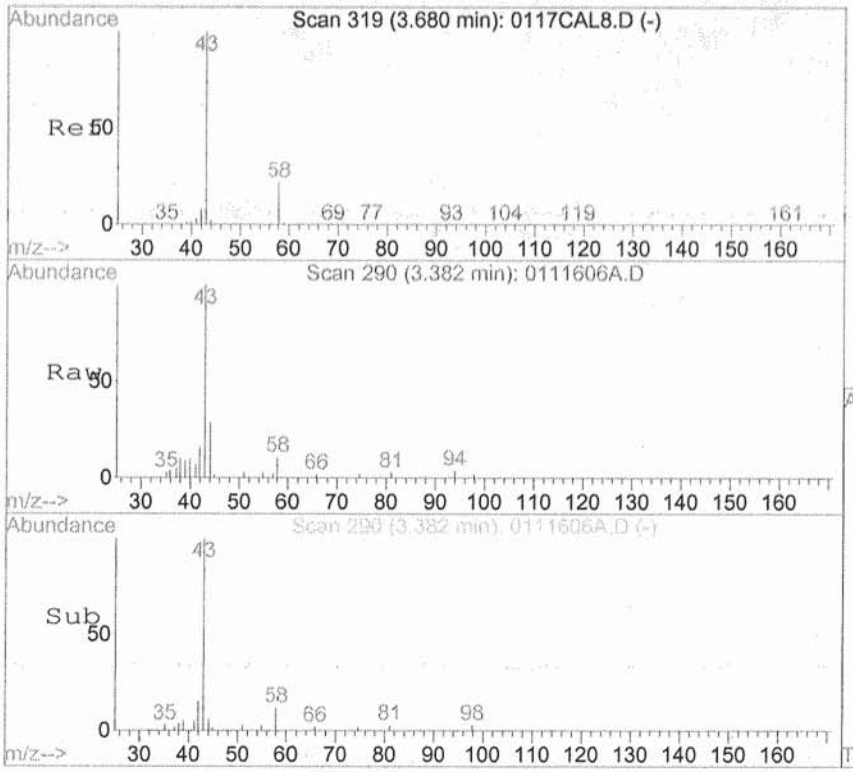
Vial: 10
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration



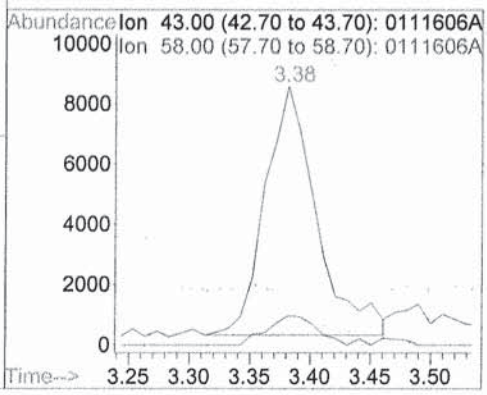
183
1501116

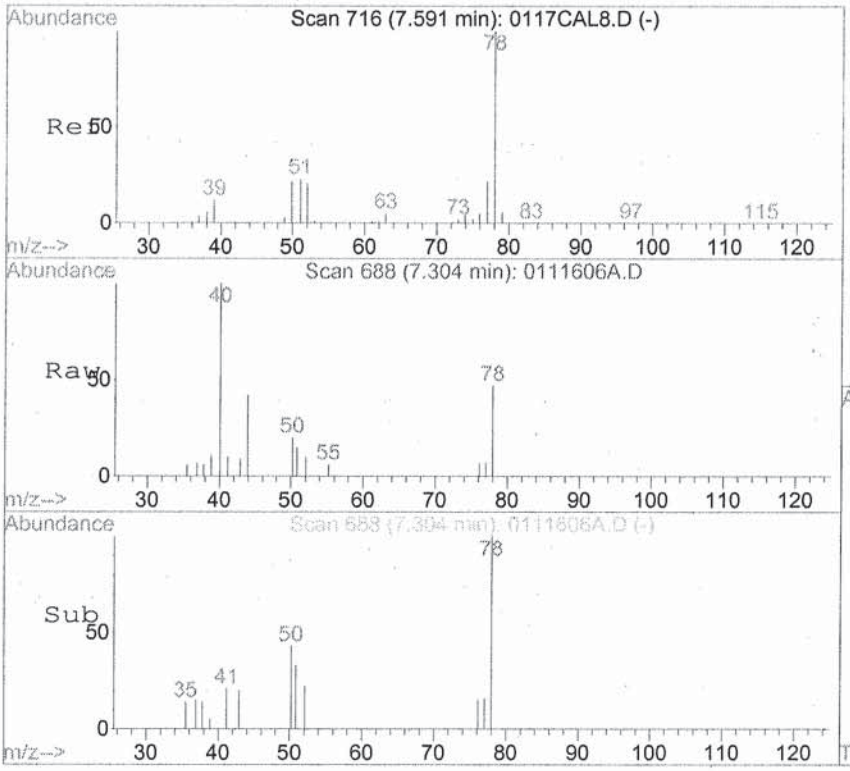


#9
Acetone
Concen: 9.32 ug/L
RT: 3.38 min Scan# 290
Delta R.T. 0.00 min
Lab File: 0111606A.D
Acq: 4 Feb 2015 11:37 am

Tgt Ion: 43 Resp: 24554

Ion	Ratio	Lower	Upper
43	100		
58	11.2	11.0	16.4

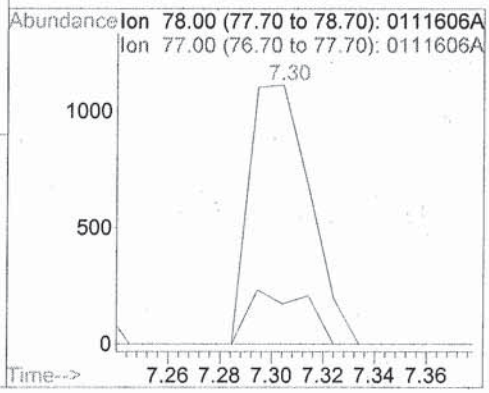


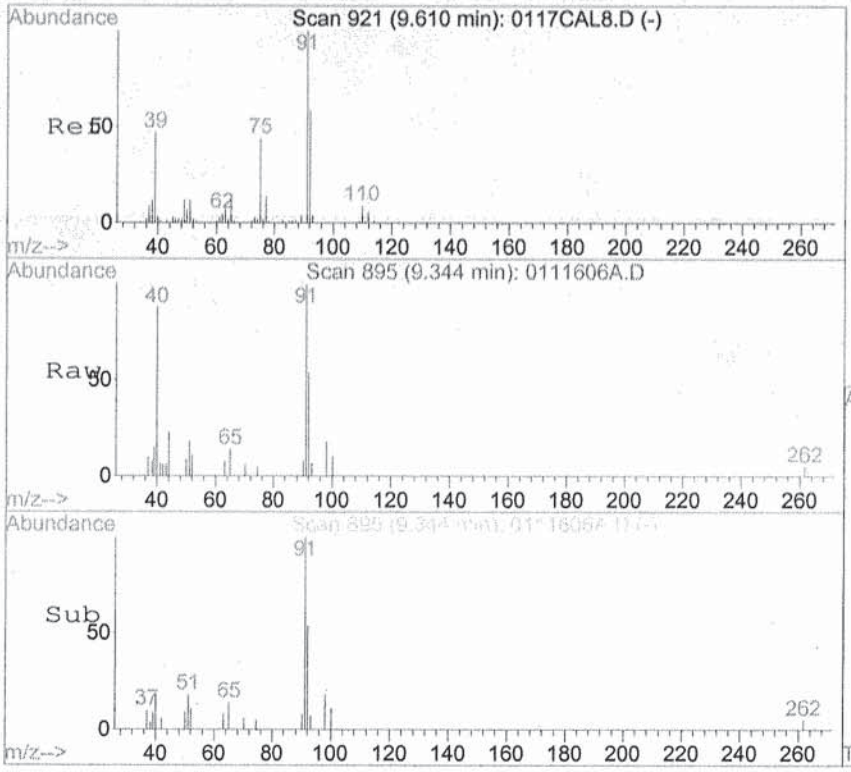


#47
Benzene
Concen: 0.06 ug/L
RT: 7.30 min Scan# 688
Delta R.T. 0.00 min
Lab File: 0111606A.D
Acq: 4 Feb 2015 11:37 am

Tgt Ion: 78 Resp: 1826

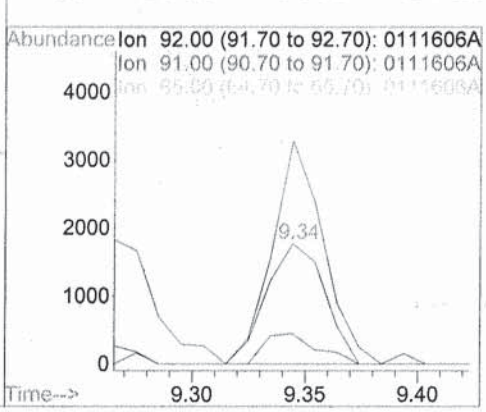
Ion	Ratio	Lower	Upper
78	100		
77	0.0	18.5	27.7#

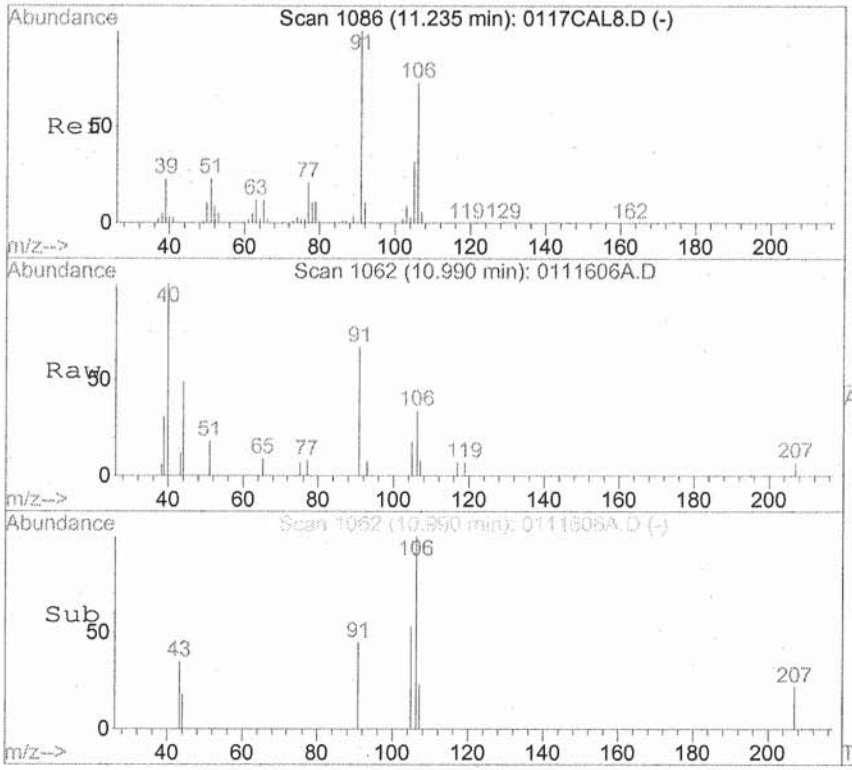




#63
Toluene
Concen: 0.18 ug/L
RT: 9.34 min Scan# 895
Delta R.T. -0.01 min
Lab File: 0111606A.D
Acq: 4 Feb 2015 11:37 am

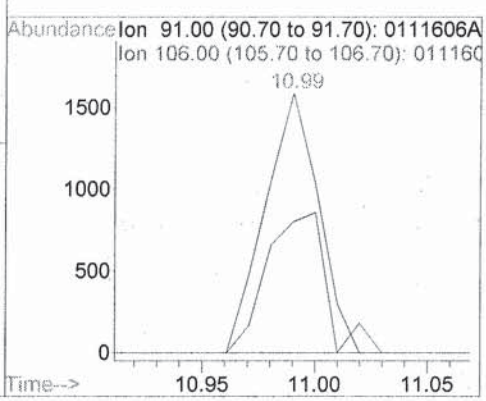
Tgt Ion: 92	Resp:	3184	
Ion	Ratio	Lower	Upper
92	100		
91	164.9	133.7	200.5
65	23.0	18.1	27.1

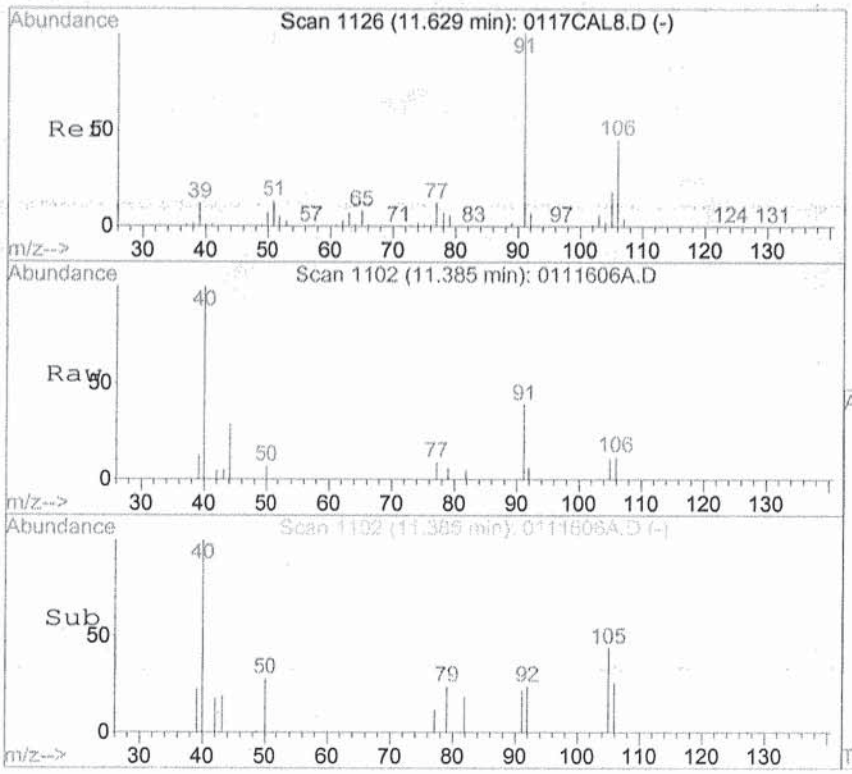




#75
m,p-Xylene
Concen: 0.10 ug/L
RT: 10.99 min Scan# 1062
Delta R.T. -0.01 min
Lab File: 0111606A.D
Acq: 4 Feb 2015 11:37 am

Tgt Ion: 91	Resp:	2632	
Ion	Ratio	Lower	Upper
91	100		
106	60.0	32.2	48.2#

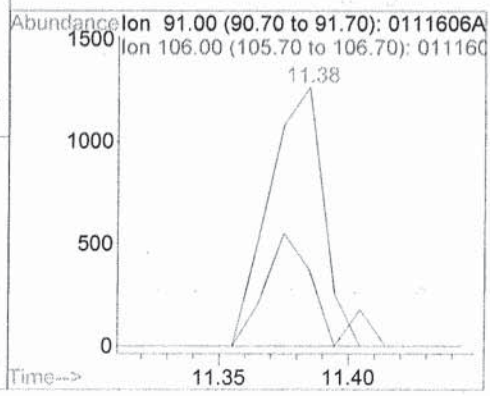


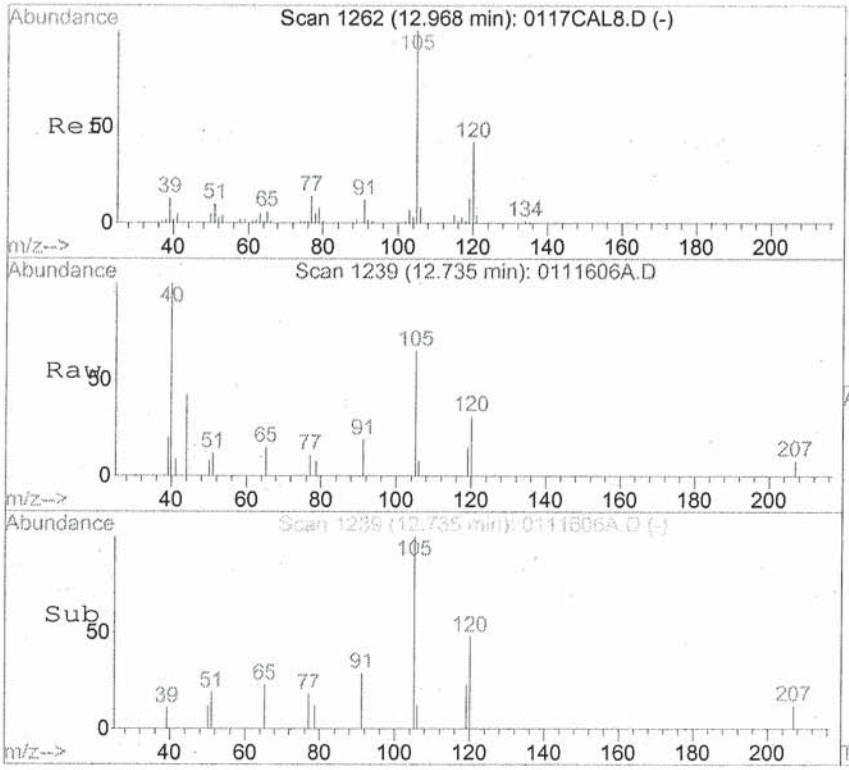


#77
o-Xylene
Concen: 0.07 ug/L
RT: 11.38 min Scan# 1102
Delta R.T. 0.00 min
Lab File: 0111606A.D
Acq: 4 Feb 2015 11:37 am

Tgt Ion: 91 Resp: 1841

Ion	Ratio	Lower	Upper
91	100		
106	42.0	32.0	48.0

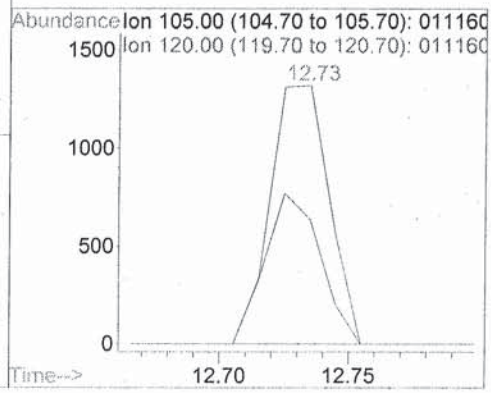


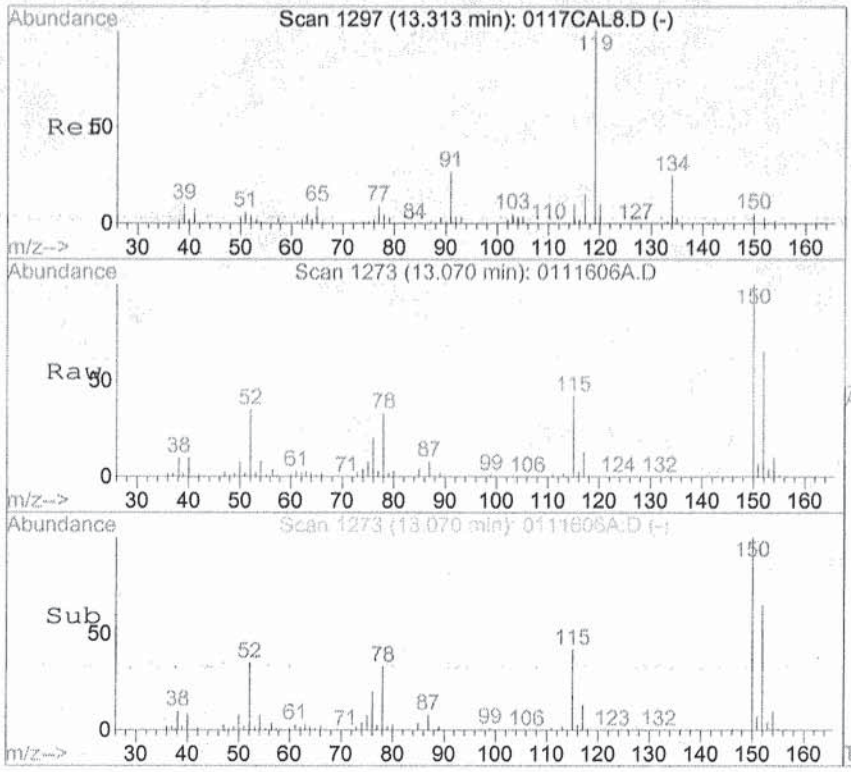


#93
1,2,4-Trimethylbenzene
Concen: 0.07 ug/L
RT: 12.73 min Scan# 1239
Delta R.T. 0.00 min
Lab File: 0111606A.D
Acq: 4 Feb 2015 11:37 am

Tgt Ion:105 Resp: 2088

Ion	Ratio	Lower	Upper
105	100		
120	54.9	37.0	55.6

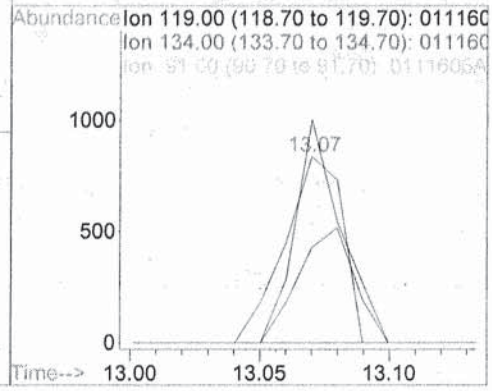


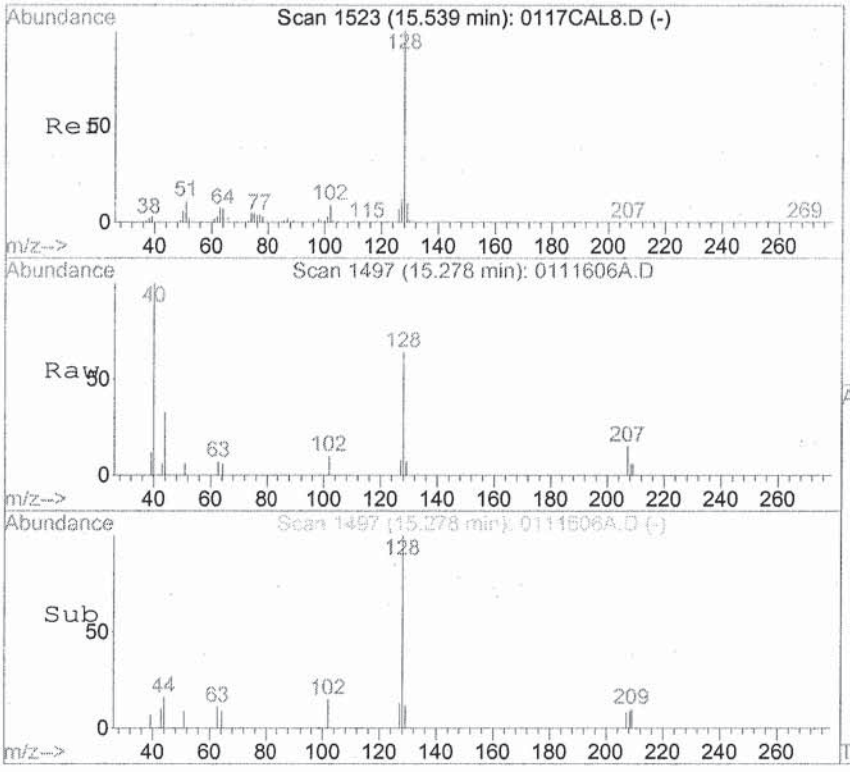


#97
p-Isopropyltoluene
Concen: 0.05 ug/L
RT: 13.07 min Scan# 1273
Delta R.T. -0.01 min
Lab File: 0111606A.D
Acq: 4 Feb 2015 11:37 am

Tgt Ion:119 Resp: 1300

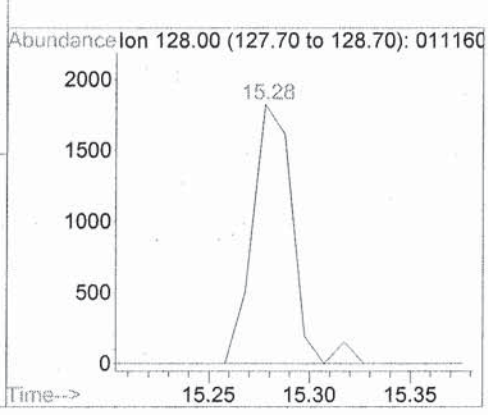
Ion	Ratio	Lower	Upper
119	100		
134	60.0	19.0	28.4#
91	95.6	23.1	34.7#





#103
Naphthalene
Concen: 0.69 ug/L
RT: 15.28 min Scan# 1497
Delta R.T. -0.01 min
Lab File: 0111606A.D
Acq: 4 Feb 2015 11:37 am

Tgt Ion:128 Resp: 2535



Quantitation Report (QT Reviewed)

Data File : D:\DATA\020415V6\0111605B.D Vial: 12
Acq On : 4 Feb 2015 12:32 pm Operator:
Sample : 1501116-05 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:54 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.57	96	941309	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.70	82	404068	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.07	152	405791	30.00	ug/L	-0.02
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	390991	30.81	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery =	102.70%		
42) 1,2-Dichloroethane-d4	7.04	102	65313	29.34	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery =	97.80%		
61) Toluene-d8	9.27	98	875706	29.37	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery =	97.90%		
82) Bromofluorobenzene	11.88	95	391963	30.31	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery =	101.03%		
Target Compounds						Qvalue
35) Chloroform	6.37	83	160766	8.3680	ug/L	100
46) Carbon tetrachloride	7.27	117	1247162	77.3906	ug/L	100
49) Trichloroethene	8.08	95	127131	12.3882	ug/L	96
63) Toluene	9.35	92	1704	0.0954	ug/L #	73
74) Ethylbenzene	10.88	91	7987	0.2206	ug/L	99
75) m,p-Xylene	10.99	91	19765	0.7361	ug/L	88
77) o-Xylene	11.38	91	13674	0.4947	ug/L	90

TCE = 127131 / 941309 × 36 / 0.32706

= 12.3883

02/09/15

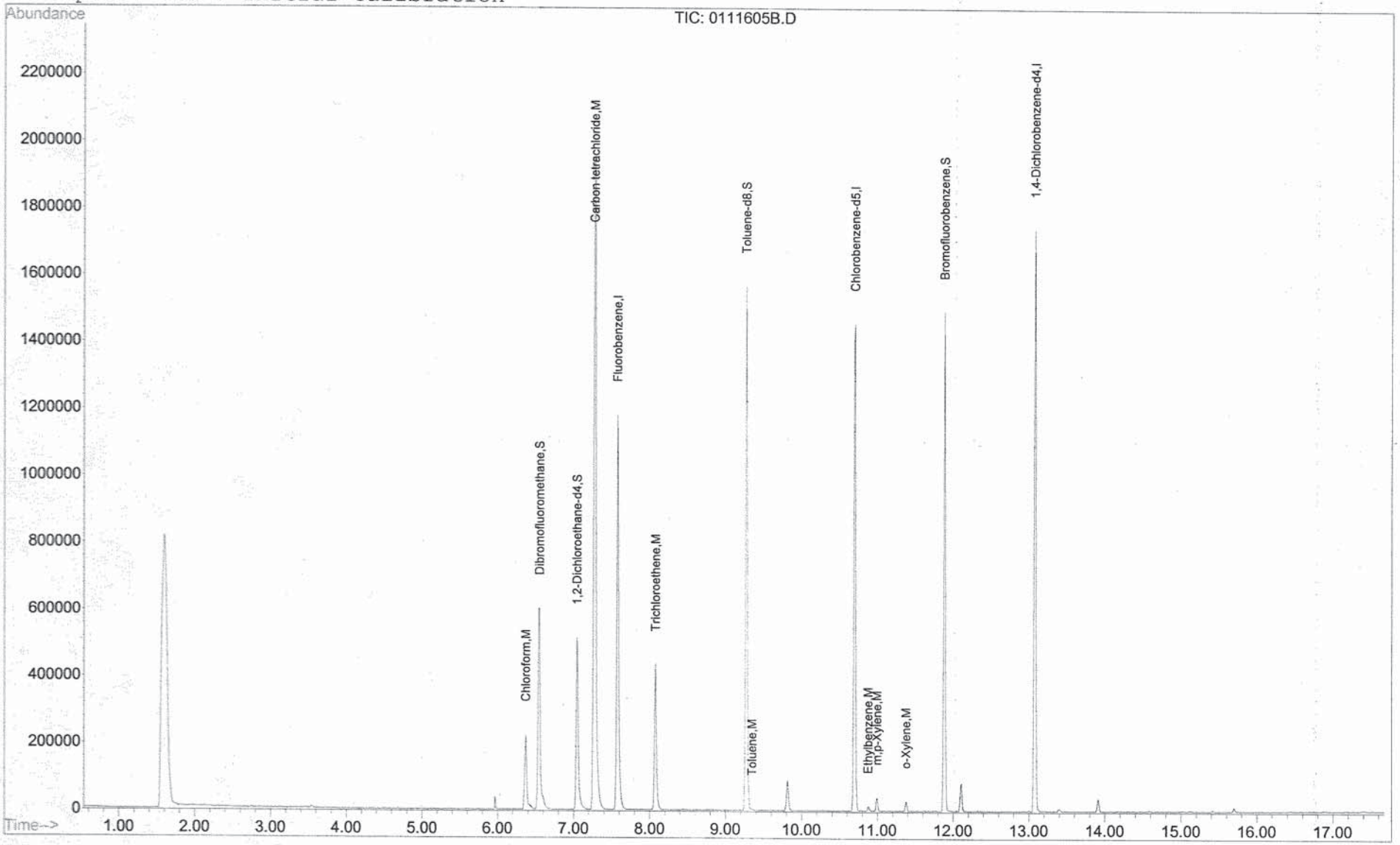
(#) = qualifier out of range (m) = manual integration
0111605B.D 020215W6.M Fri Feb 06 10:54:50 2015 Page 1

Data File : D:\DATA\020415V6\0111605B.D
Acq On : 4 Feb 2015 12:32 pm
Sample : 1501116-05
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:54 2015

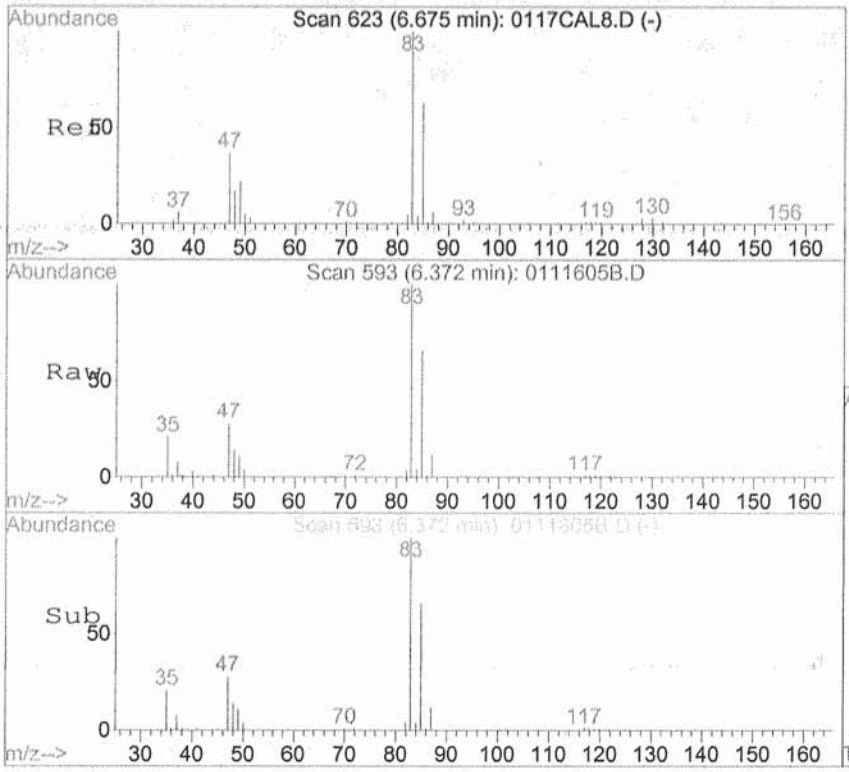
Vial: 12
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration



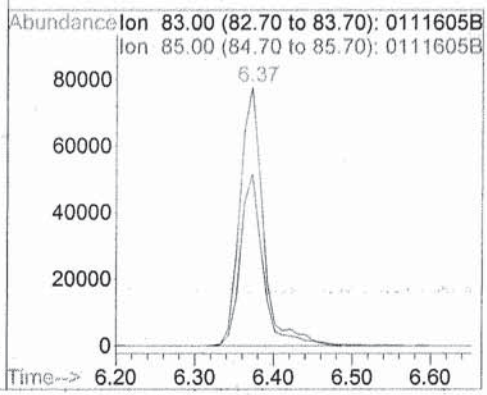
189
1501116

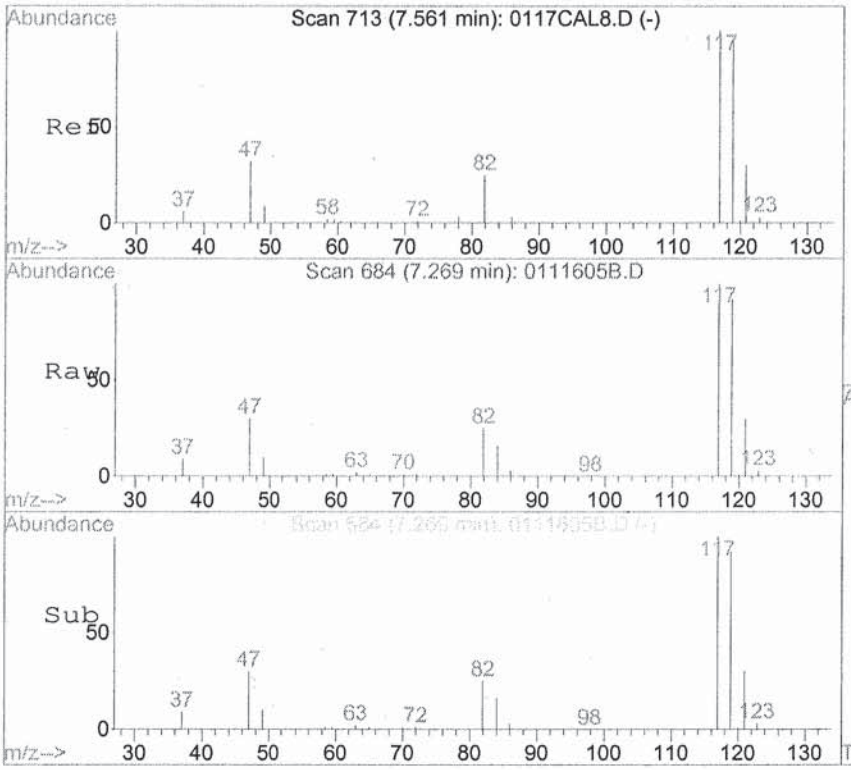


#35
Chloroform
Concen: 8.37 ug/L
RT: 6.37 min Scan# 593
Delta R.T. 0.00 min
Lab File: 0111605B.D
Acq: 4 Feb 2015 12:32 pm

Tgt Ion: 83 Resp: 160766

Ion	Ratio	Lower	Upper
83	100		
85	64.2	51.3	76.9

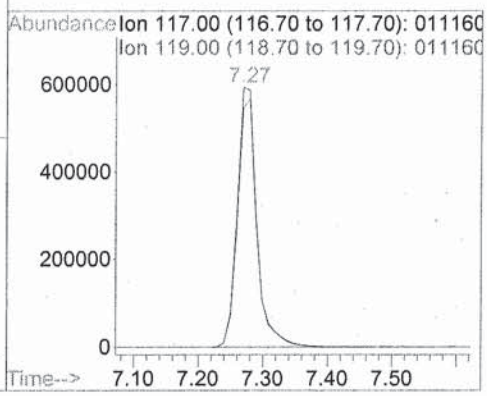


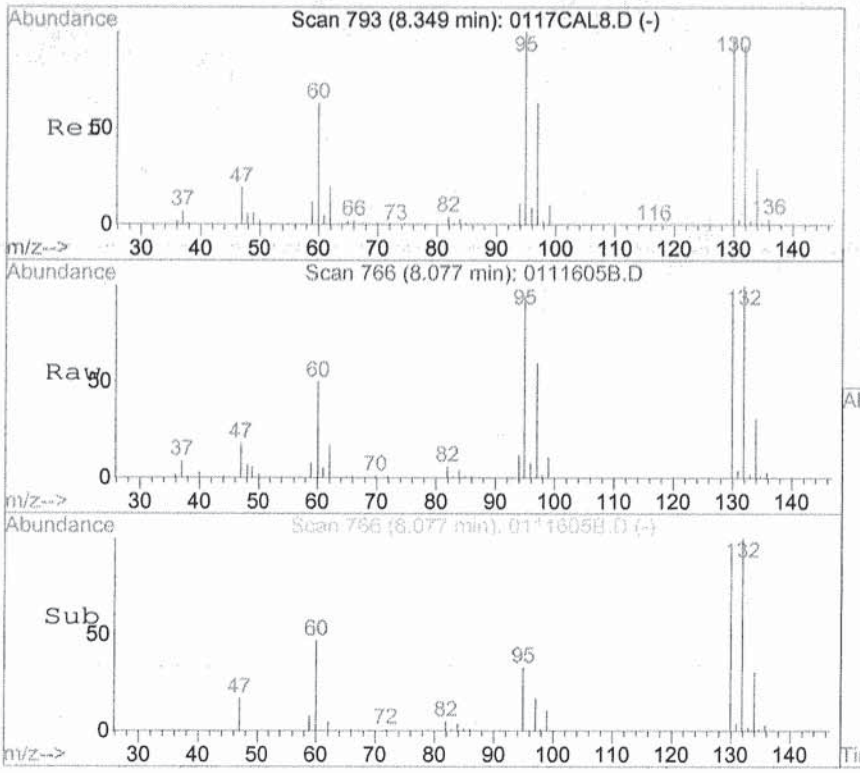


#46
Carbon tetrachloride
Concen: 77.39 ug/L
RT: 7.27 min Scan# 684
Delta R.T. -0.01 min
Lab File: 0111605B.D
Acq: 4 Feb 2015 12:32 pm

Tgt Ion:117 Resp: 1247162

Ion	Ratio	Lower	Upper
117	100		
119	94.5	75.4	113.0

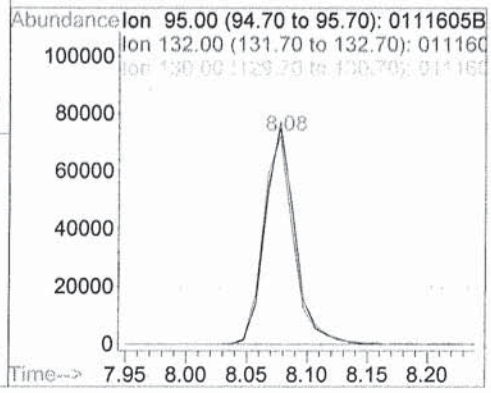


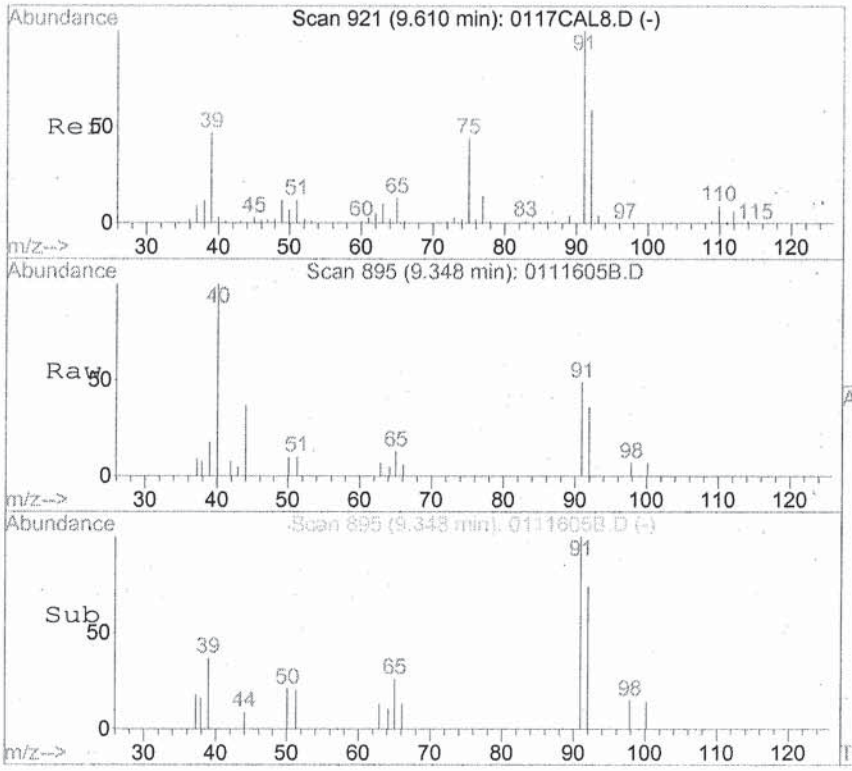


#49
Trichloroethene
Concen: 12.39 ug/L
RT: 8.08 min Scan# 766
Delta R.T. 0.00 min
Lab File: 0111605B.D
Acq: 4 Feb 2015 12:32 pm

Tgt Ion: 95 Resp: 127131

Ion	Ratio	Lower	Upper
95	100		
132	102.0	78.6	118.0
130	103.2	79.6	119.4

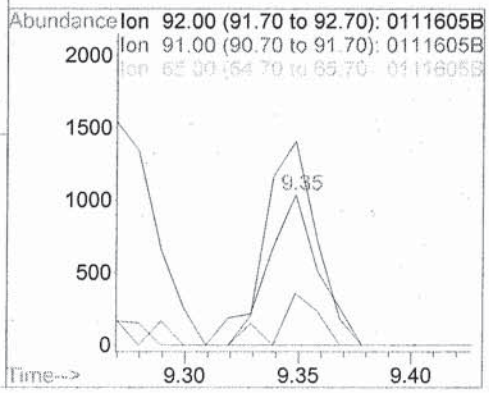


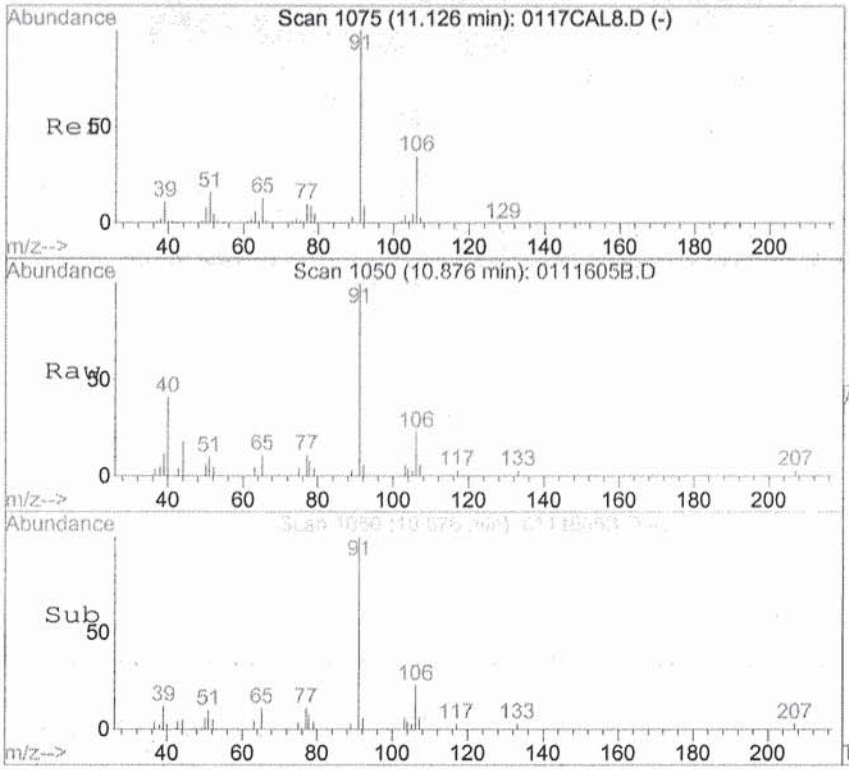


#63
Toluene
Concen: 0.10 ug/L
RT: 9.35 min Scan# 895
Delta R.T. -0.01 min
Lab File: 0111605B.D
Acq: 4 Feb 2015 12:32 pm

Tgt Ion: 92 Resp: 1704

Ion	Ratio	Lower	Upper
92	100		
91	127.1	133.7	200.5#
65	25.8	18.1	27.1

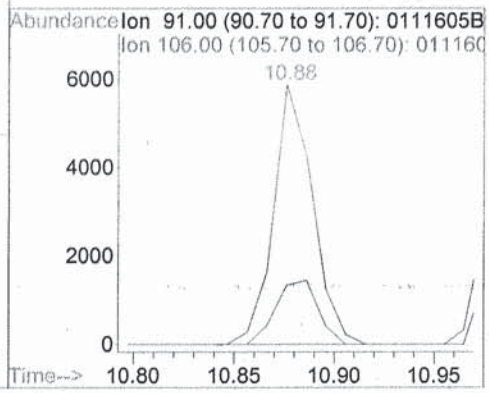


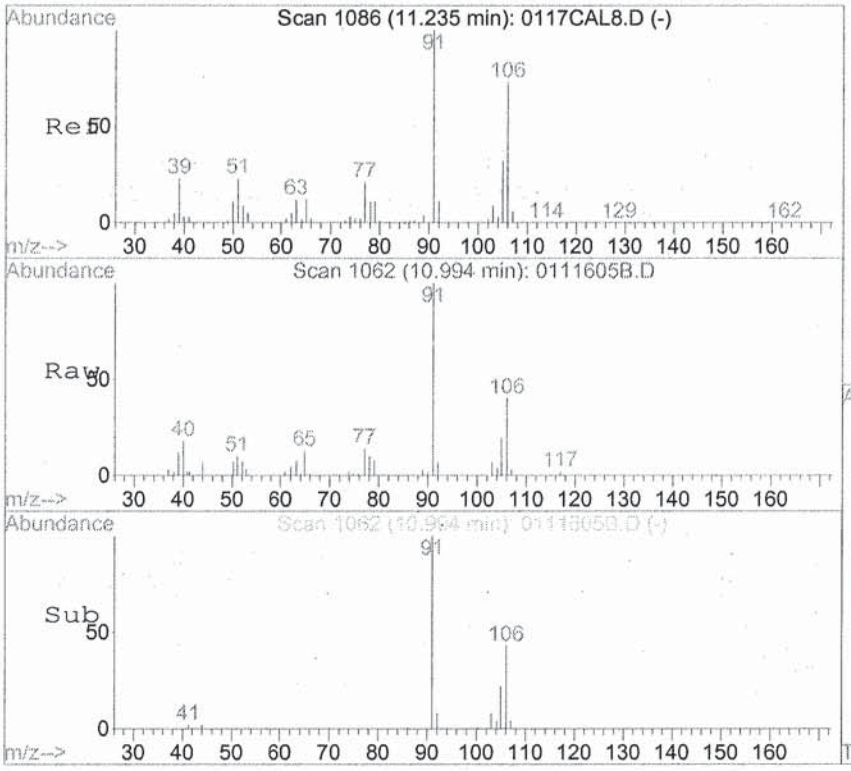


#74
Ethylbenzene
Concen: 0.22 ug/L
RT: 10.88 min Scan# 1050
Delta R.T. -0.02 min
Lab File: 0111605B.D
Acq: 4 Feb 2015 12:32 pm

Tgt Ion: 91 Resp: 7987

Ion	Ratio	Lower	Upper
91	100		
106	26.8	21.8	32.6

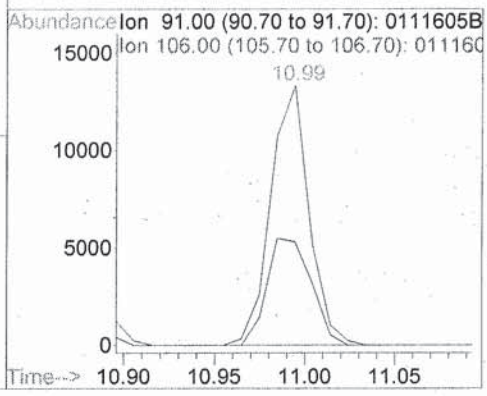


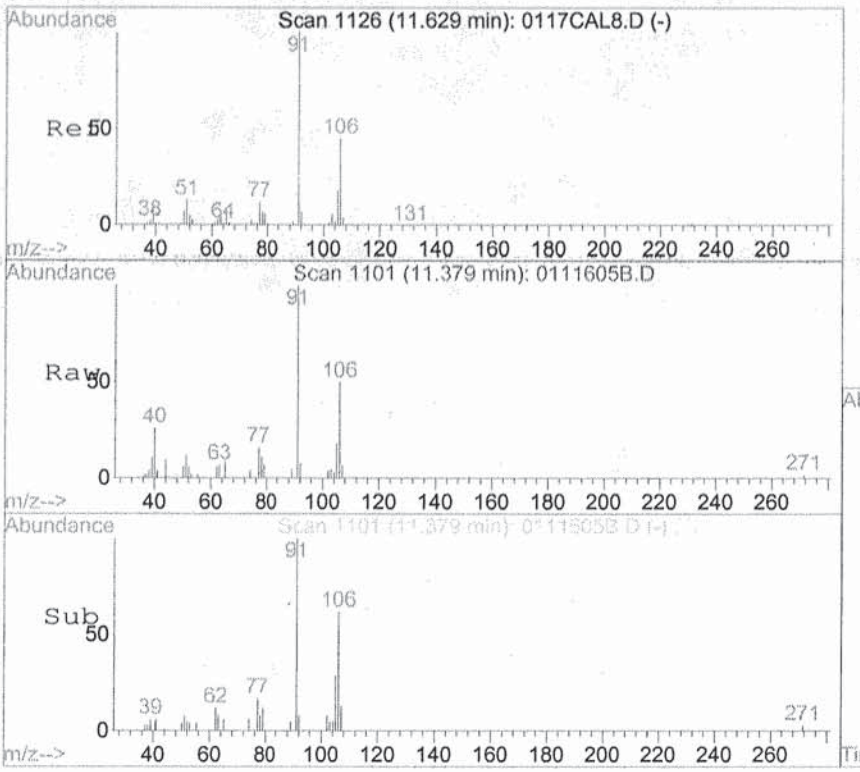


#75
m,p-Xylene
Concen: 0.74 ug/L
RT: 10.99 min Scan# 1062
Delta R.T. -0.01 min
Lab File: 0111605B.D
Acq: 4 Feb 2015 12:32 pm

Tgt Ion: 91 Resp: 19765

Ion	Ratio	Lower	Upper
91	100		
106	47.6	32.2	48.2

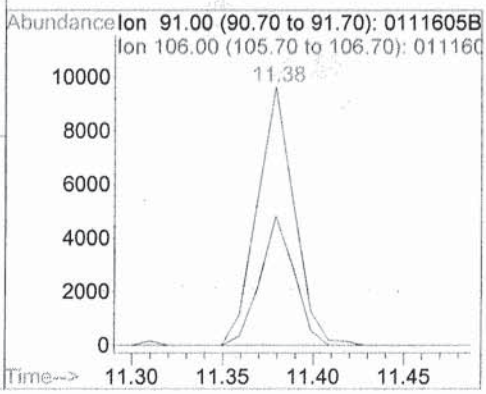




#77
o-Xylene
Concen: 0.49 ug/L
RT: 11.38 min Scan# 1101
Delta R.T. -0.01 min
Lab File: 0111605B.D
Acq: 4 Feb 2015 12:32 pm

Tgt Ion: 91 Resp: 13674

Ion	Ratio	Lower	Upper
91	100		
106	46.3	32.0	48.0



Quantitation Report (QT Reviewed)

Data File : D:\DATA\020415V6\0111602B.D Vial: 14
Acq On : 4 Feb 2015 1:27 pm Operator:
Sample : 1501116-02 2XLF Inst : NSH-VOA6
Misc : 2 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:58 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

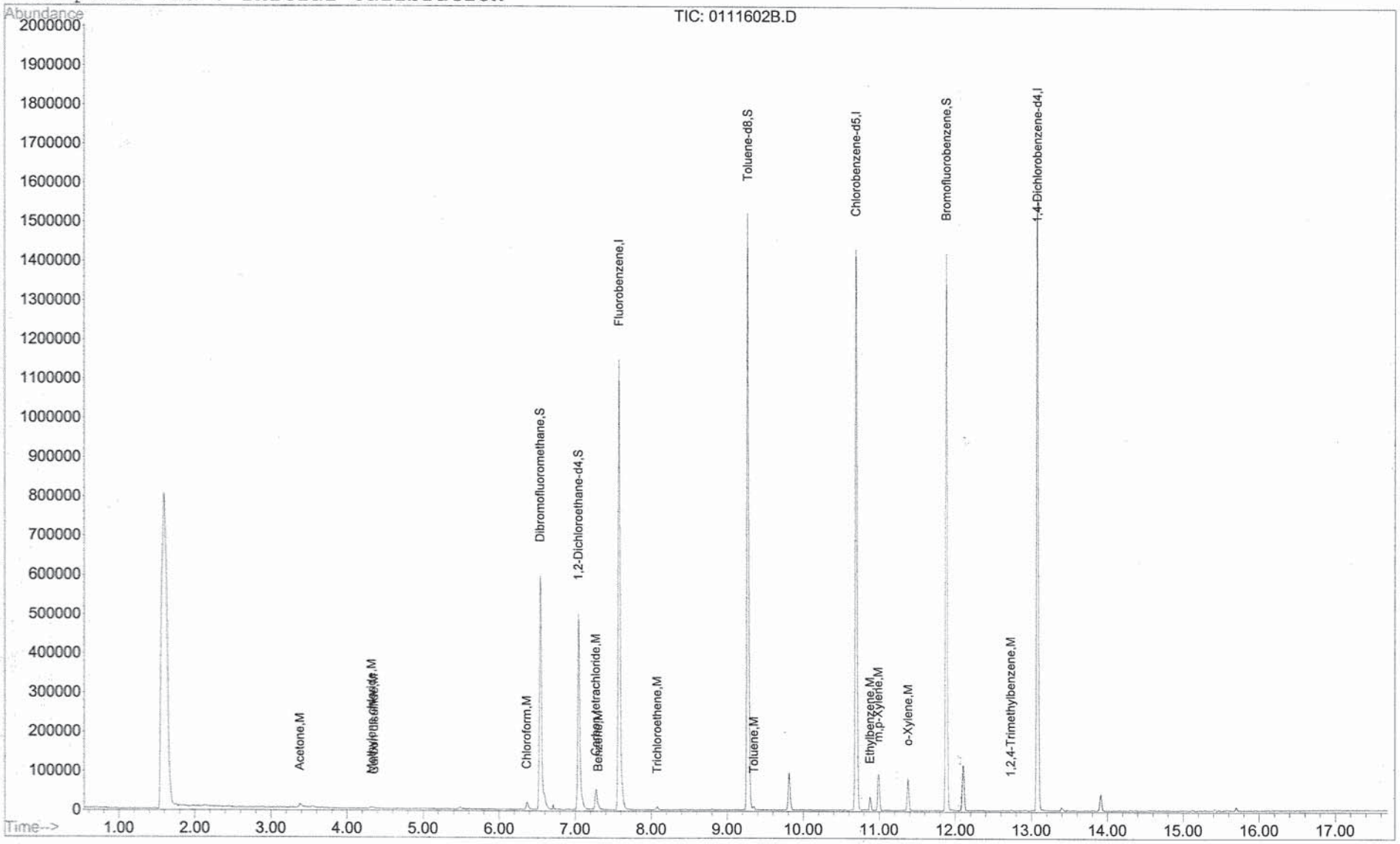
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.58	96	893289	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.69	82	382499	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.08	152	381850	30.00	ug/L	-0.01
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	367952	30.56	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 101.87%			
42) 1,2-Dichloroethane-d4	7.04	102	61548	29.14	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 97.13%			
61) Toluene-d8	9.27	98	848126	30.05	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 100.17%			
82) Bromofluorobenzene	11.88	95	363958	29.73	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 99.10%			
Target Compounds						Qvalue
9) Acetone	3.39	43	17537	7.0172	ug/L	95
19) Methylene chloride	4.31	84	1966	0.1986	ug/L	91
20) Carbon disulfide	4.35	76	2450	0.0820	ug/L #	87
35) Chloroform	6.36	83	14131	0.7751	ug/L	100
46) Carbon tetrachloride	7.27	117	32027	2.5237	ug/L	98
47) Benzene	7.31	78	4099	0.1364	ug/L	98
49) Trichloroethene	8.08	95	2440	0.2505	ug/L	91
63) Toluene	9.35	92	2775	0.1641	ug/L #	89
74) Ethylbenzene	10.88	91	19400	0.5660	ug/L	97
75) m,p-Xylene	10.99	91	51584	2.0294	ug/L	93
77) o-Xylene	11.38	91	38036	1.4538	ug/L	88
93) 1,2,4-Trimethylbenzene	12.73	105	1484	0.0525	ug/L #	77

02/09/15

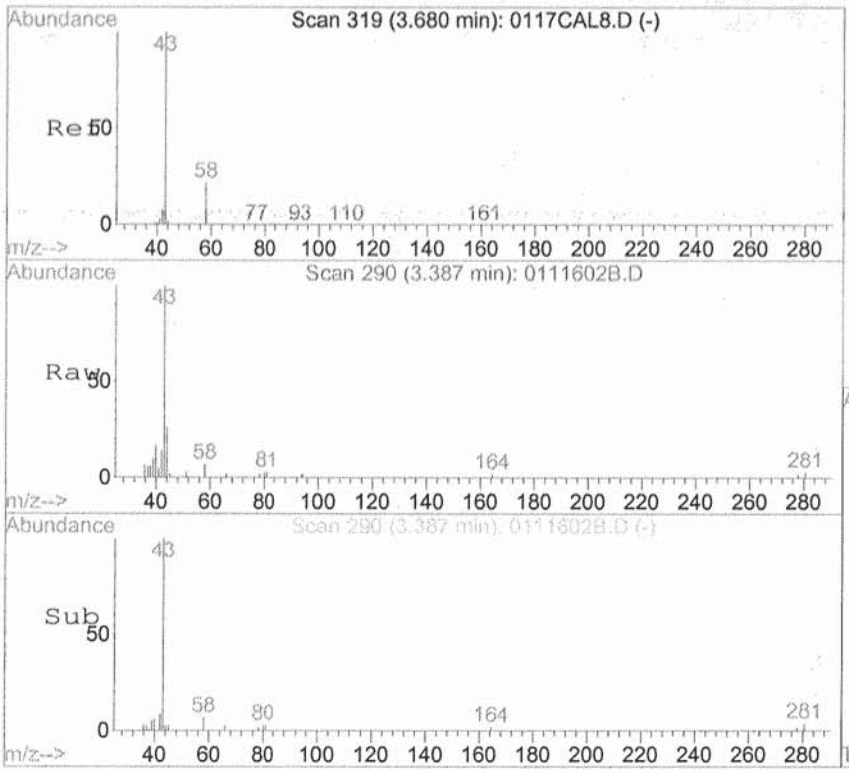
(#) = qualifier out of range (m) = manual integration

Data File : D:\DATA\020415V6\0111602B.D Vial: 14
Acq On : 4 Feb 2015 1:27 pm Operator:
Sample : 1501116-02 2XLF Inst : NSH-VOA6
Misc : 2 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 6 10:58 2015 Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration



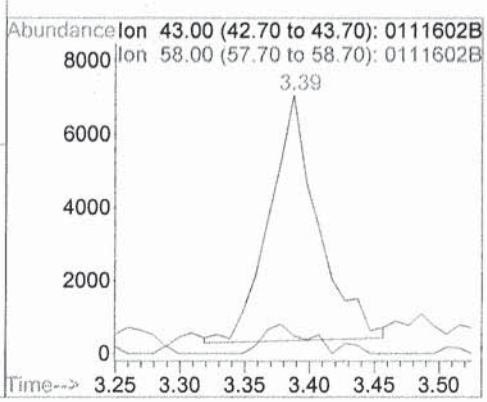
195
1501116

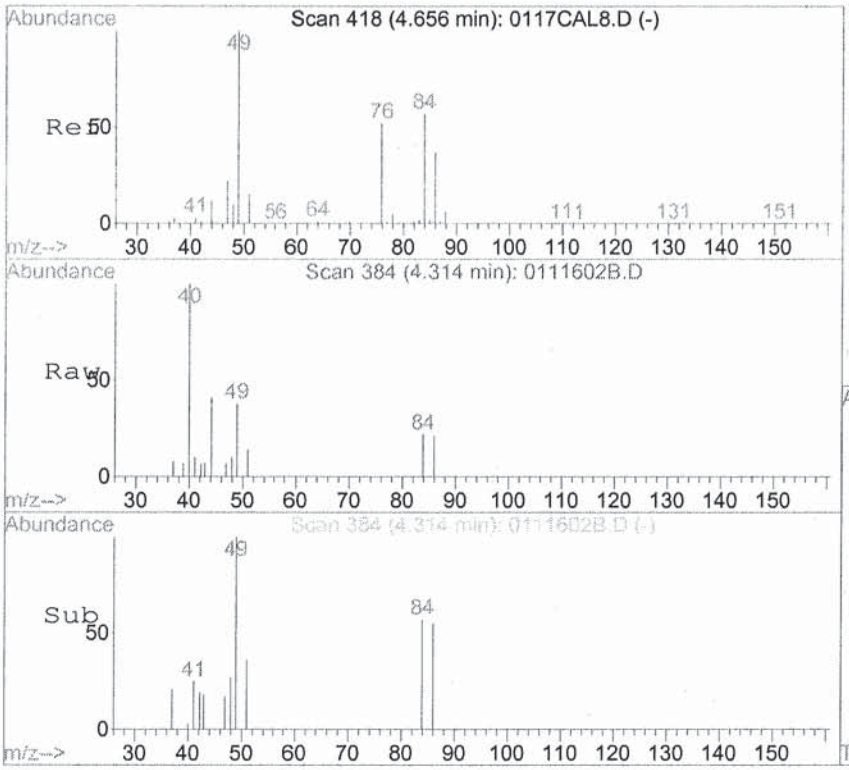


#9
Acetone
Concen: 7.02 ug/L
RT: 3.39 min Scan# 290
Delta R.T. 0.01 min
Lab File: 0111602B.D
Acq: 4 Feb 2015 1:27 pm

Tgt Ion: 43 Resp: 17537

Ion	Ratio	Lower	Upper
43	100		
58	11.9	11.0	16.4

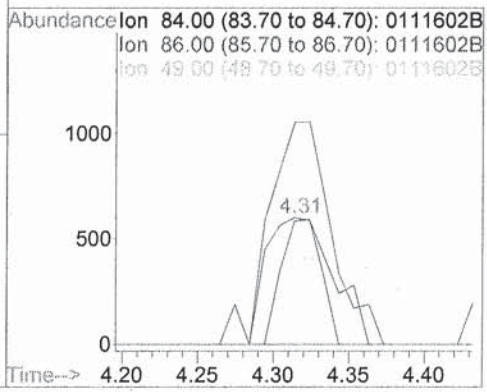


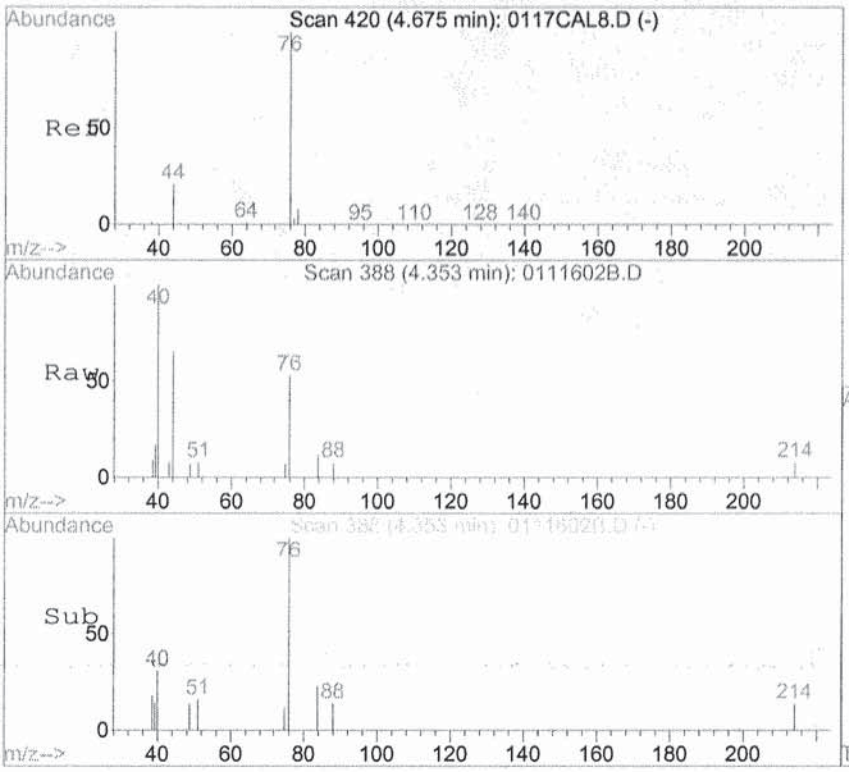


#19
Methylene chloride
Concen: 0.20 ug/L
RT: 4.31 min Scan# 384
Delta R.T. -0.00 min
Lab File: 0111602B.D
Acq: 4 Feb 2015 1:27 pm

Tgt Ion: 84 Resp: 1966

Ion	Ratio	Lower	Upper
84	100		
86	55.1	54.3	81.5
49	148.2	124.5	186.7

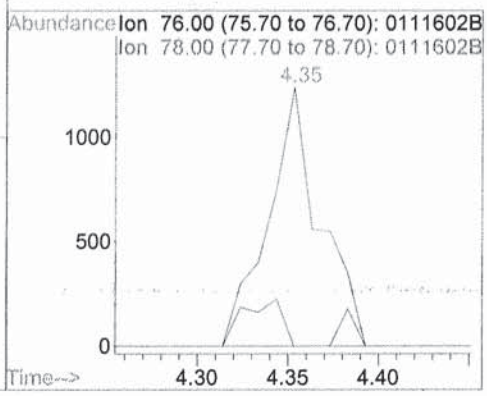


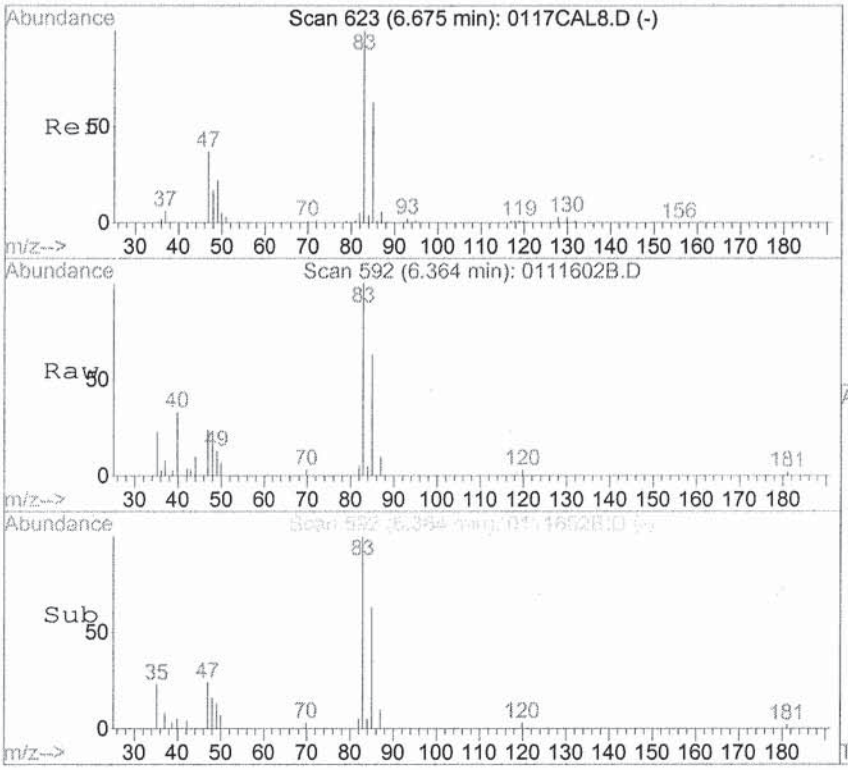


#20
Carbon disulfide
Concen: 0.08 ug/L
RT: 4.35 min Scan# 388
Delta R.T. -0.00 min
Lab File: 0111602B.D
Acq: 4 Feb 2015 1:27 pm

Tgt Ion: 76 Resp: 2450

Ion	Ratio	Lower	Upper
76	100		
78	13.8	7.4	11.0#

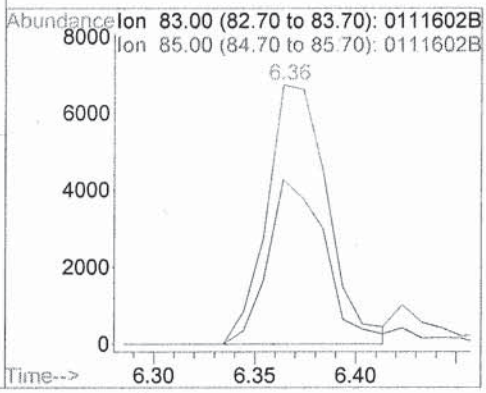


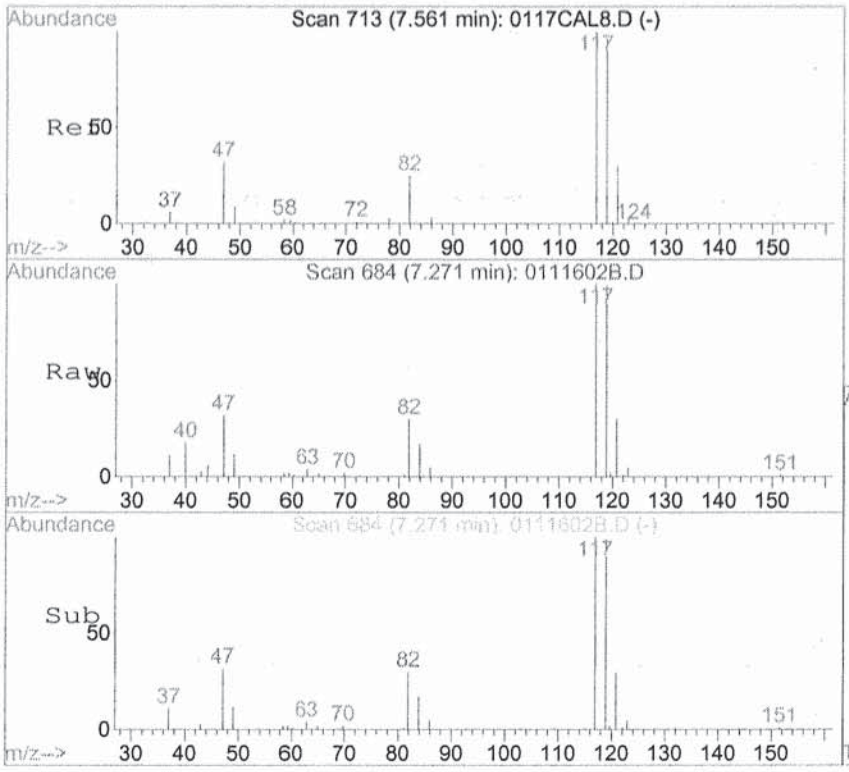


#35
Chloroform
Concen: 0.78 ug/L
RT: 6.36 min Scan# 592
Delta R.T. -0.00 min
Lab File: 0111602B.D
Acq: 4 Feb 2015 1:27 pm

Tgt Ion: 83 Resp: 14131

Ion	Ratio	Lower	Upper
83	100		
85	63.7	51.3	76.9

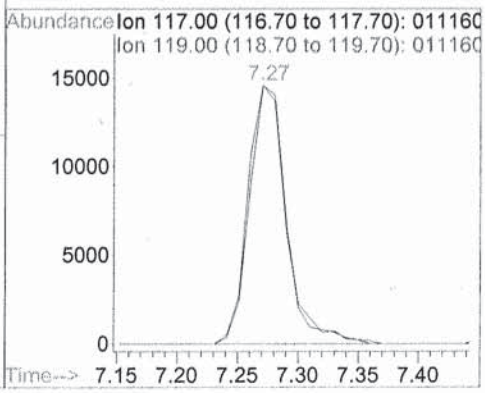


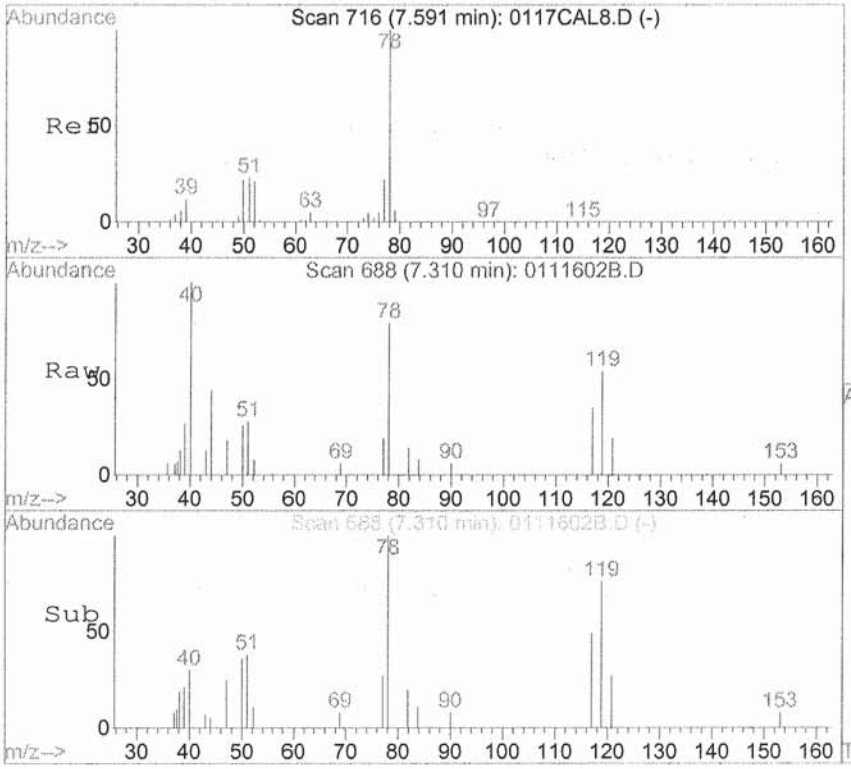


#46
Carbon tetrachloride
Concen: 2.52 ug/L
RT: 7.27 min Scan# 684
Delta R.T. -0.00 min
Lab File: 0111602B.D
Acq: 4 Feb 2015 1:27 pm

Tgt Ion:117 Resp: 32027

Ion	Ratio	Lower	Upper
117	100		
119	96.4	75.4	113.0

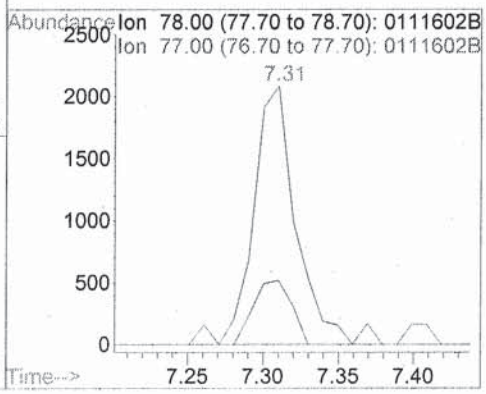


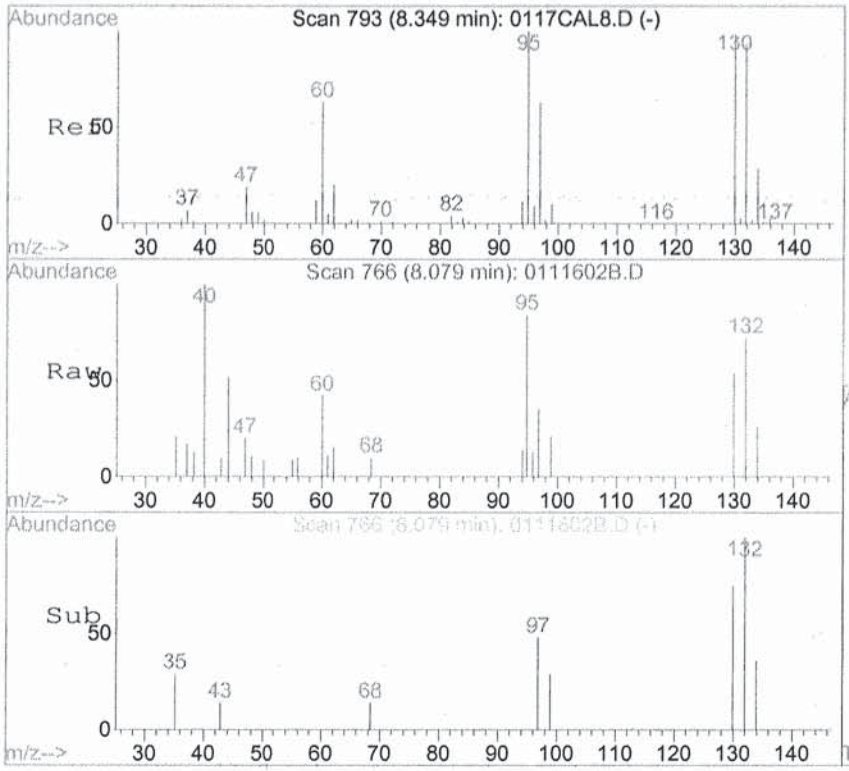


#47
Benzene
Concen: 0.14 ug/L
RT: 7.31 min Scan# 688
Delta R.T. 0.01 min
Lab File: 0111602B.D
Acq: 4 Feb 2015 1:27 pm

Tgt Ion: 78 Resp: 4099

Ion	Ratio	Lower	Upper
78	100		
77	22.3	18.5	27.7

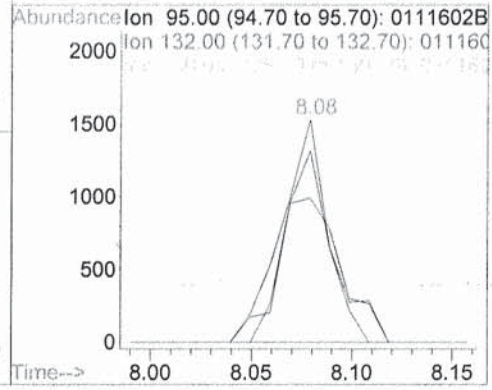


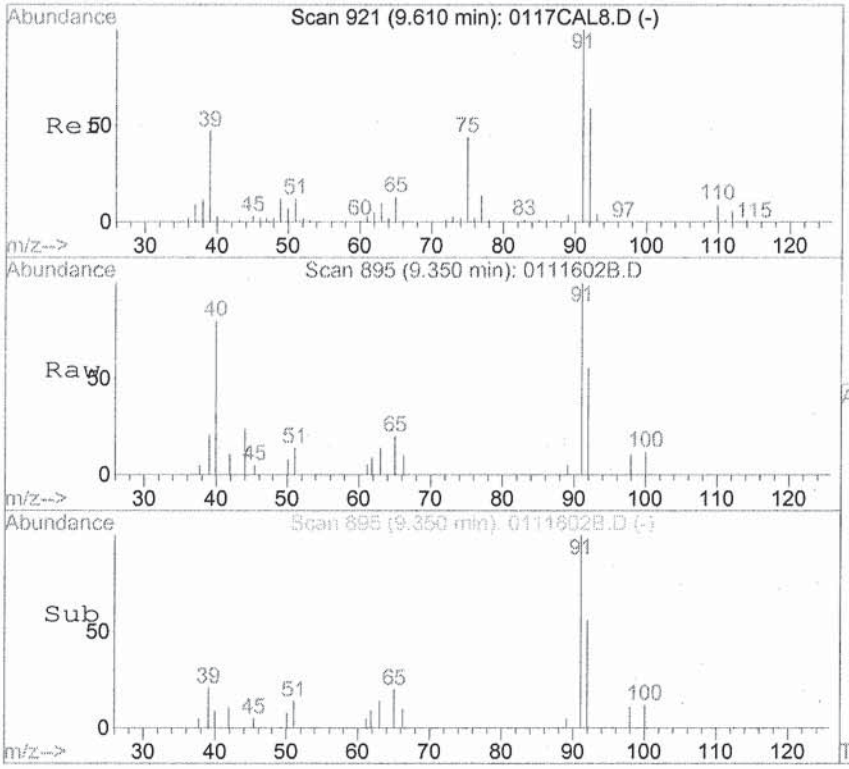


#49
Trichloroethene
Concen: 0.25 ug/L
RT: 8.08 min Scan# 766
Delta R.T. 0.01 min
Lab File: 0111602B.D
Acq: 4 Feb 2015 1:27 pm

Tgt Ion: 95 Resp: 2440

Ion	Ratio	Lower	Upper
95	100		
132	93.8	78.6	118.0
130	86.2	79.6	119.4

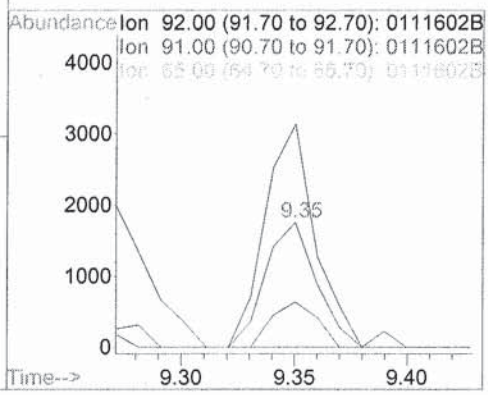


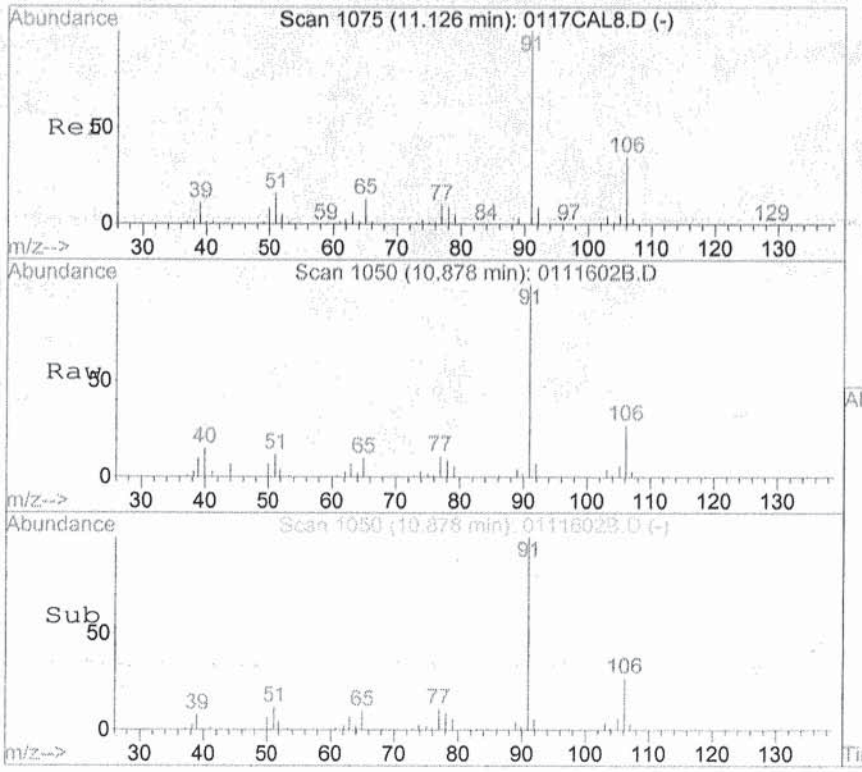


#63
Toluene
Concen: 0.16 ug/L
RT: 9.35 min Scan# 895
Delta R.T. -0.00 min
Lab File: 0111602B.D
Acq: 4 Feb 2015 1:27 pm

Tgt Ion: 92 Resp: 2775

Ion	Ratio	Lower	Upper
92	100		
91	179.7	133.7	200.5
65	32.0	18.1	27.1#

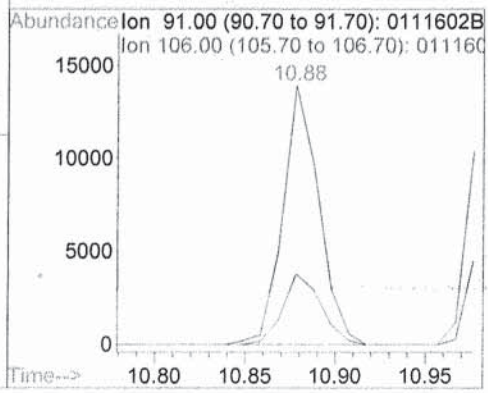


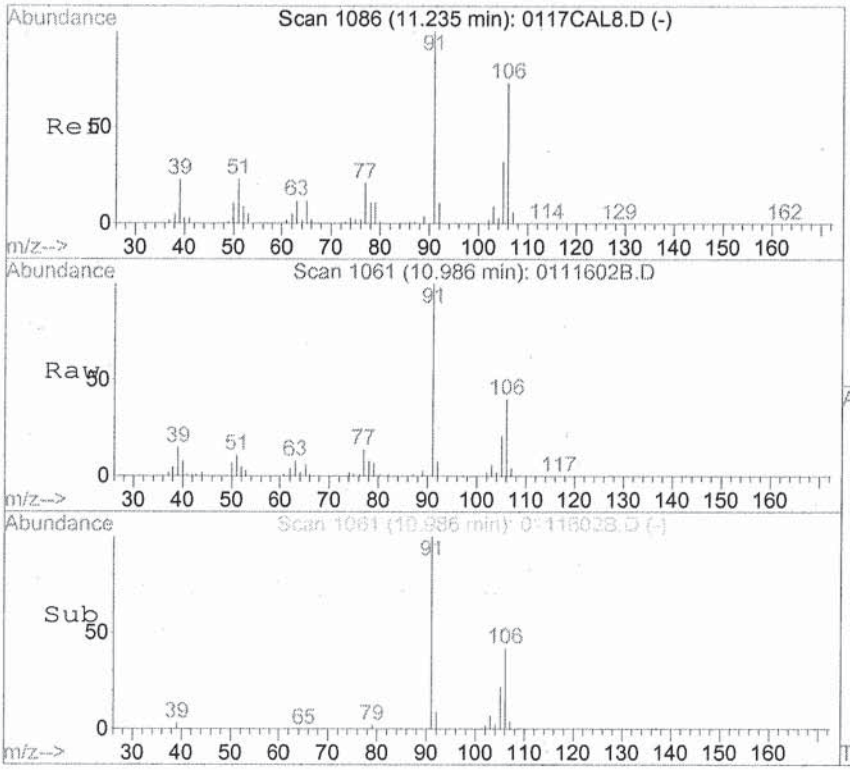


#74
Ethylbenzene
Concen: 0.57 ug/L
RT: 10.88 min Scan# 1050
Delta R.T. -0.01 min
Lab File: 0111602B.D
Acq: 4 Feb 2015 1:27 pm

Tgt Ion: 91 Resp: 19400

Ion	Ratio	Lower	Upper
91	100		
106	28.8	21.8	32.6

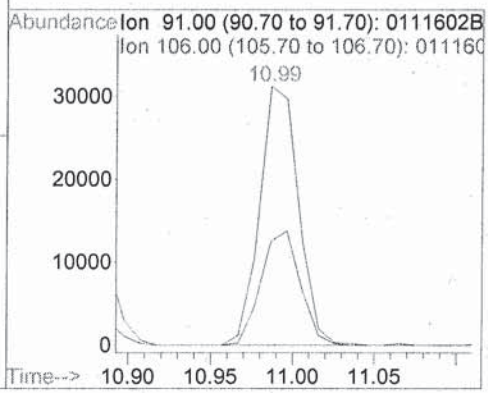


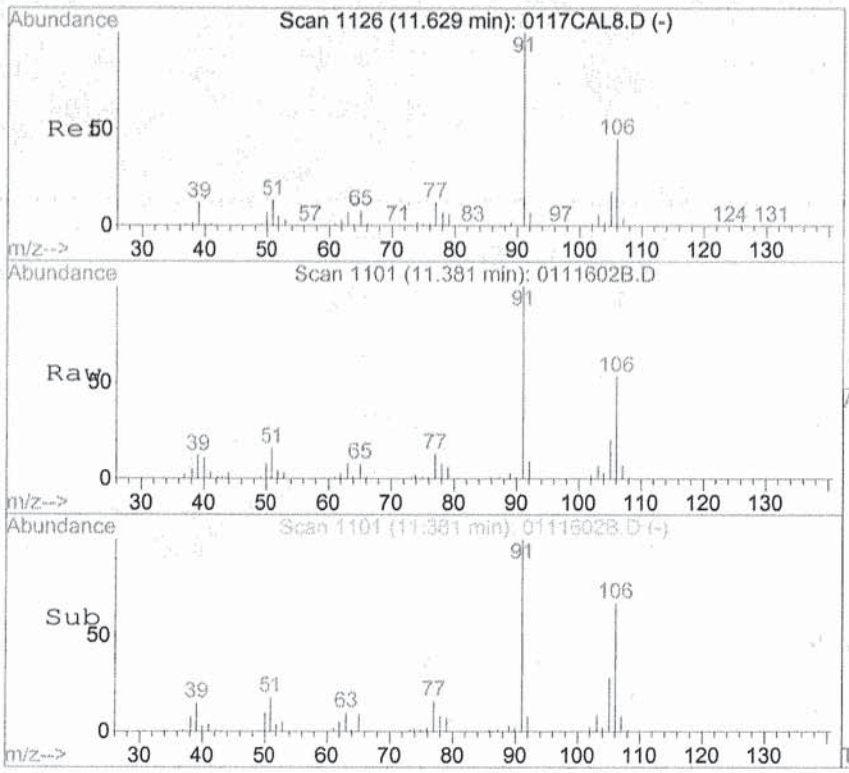


#75
m,p-Xylene
Concen: 2.03 ug/L
RT: 10.99 min Scan# 1061
Delta R.T. -0.01 min
Lab File: 0111602B.D
Acq: 4 Feb 2015 1:27 pm

Tgt Ion: 91 Resp: 51584

Ion	Ratio	Lower	Upper
91	100		
106	44.6	32.2	48.2

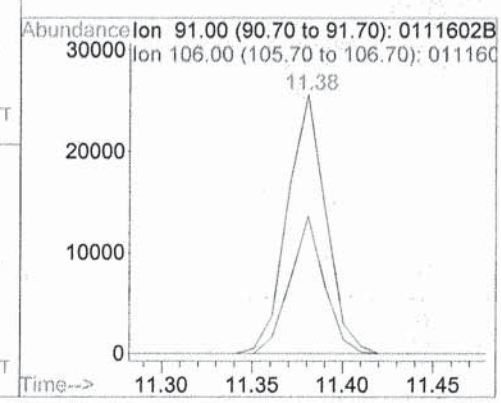


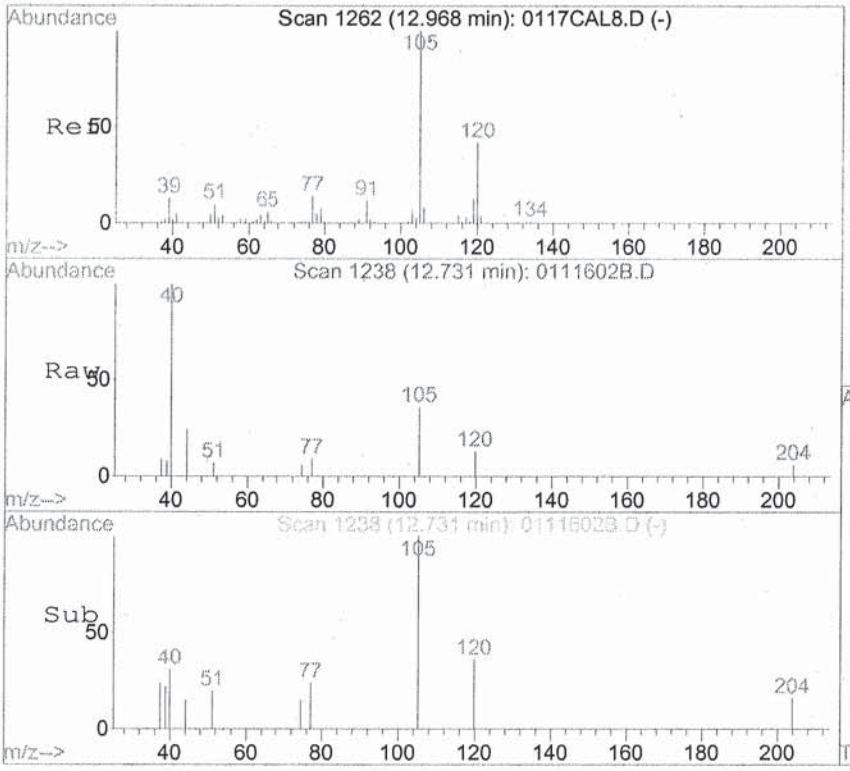


#77
o-Xylene
Concen: 1.45 ug/L
RT: 11.38 min Scan# 1101
Delta R.T. -0.00 min
Lab File: 0111602B.D
Acq: 4 Feb 2015 1:27 pm

Tgt Ion: 91 Resp: 38036

Ion	Ratio	Lower	Upper
91	100		
106	47.4	32.0	48.0

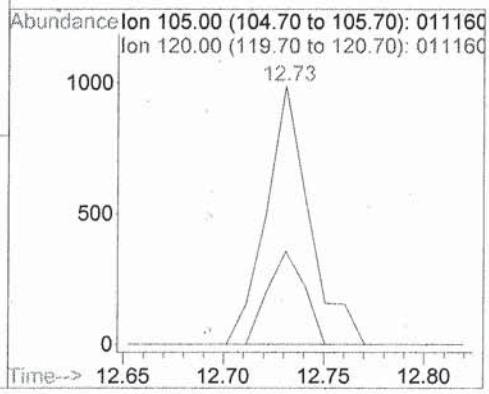




#93
1,2,4-Trimethylbenzene
Concen: 0.05 ug/L
RT: 12.73 min Scan# 1238
Delta R.T. -0.00 min
Lab File: 0111602B.D
Acq: 4 Feb 2015 1:27 pm

Tgt Ion:105 Resp: 1484

Ion	Ratio	Lower	Upper
105	100		
120	30.8	37.0	55.6#



Quantitation Report (QT Reviewed)

Data File : D:\DATA\020415V6\0111603B.D Vial: 15
Acq On : 4 Feb 2015 1:54 pm Operator:
Sample : 1501116-03 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 6 11:01 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.57	96	875898	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.70	82	373936	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.08	152	386916	30.00	ug/L	0.00
System Monitoring Compounds						
38) Dibromofluoromethane	6.55	111	370251	31.36	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 104.53%			
42) 1,2-Dichloroethane-d4	7.05	102	61797	29.84	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 99.47%			
61) Toluene-d8	9.27	98	845075	30.63	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 102.10%			
82) Bromofluorobenzene	11.88	95	363454	30.37	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 101.23%			
Target Compounds						Qvalue
7) Trichlorofluoromethane	3.09	101	2404	0.1693	ug/L	95
23) 1,1-Dichloroethane	5.39	63	4904	0.3129	ug/L	98
31) cis-1,2-Dichloroethene	6.12	96	3616	0.3842	ug/L	98
35) Chloroform	6.37	83	2417	0.1352	ug/L	95
41) 1,1,1-Trichloroethane	6.93	97	3657	0.2397	ug/L	89
46) Carbon tetrachloride	7.27	117	19343	1.6165	ug/L	98
49) Trichloroethene	8.08	95	19882	2.0821	ug/L	98
63) Toluene	9.35	92	1596	0.0965	ug/L #	84
69) Tetrachloroethene	10.08	166	2949	0.3108	ug/L	93
74) Ethylbenzene	10.89	91	7190	0.2146	ug/L	90
75) m,p-Xylene	10.99	91	19975	0.8039	ug/L	91
77) o-Xylene	11.38	91	13853	0.5416	ug/L	97

02/09/15

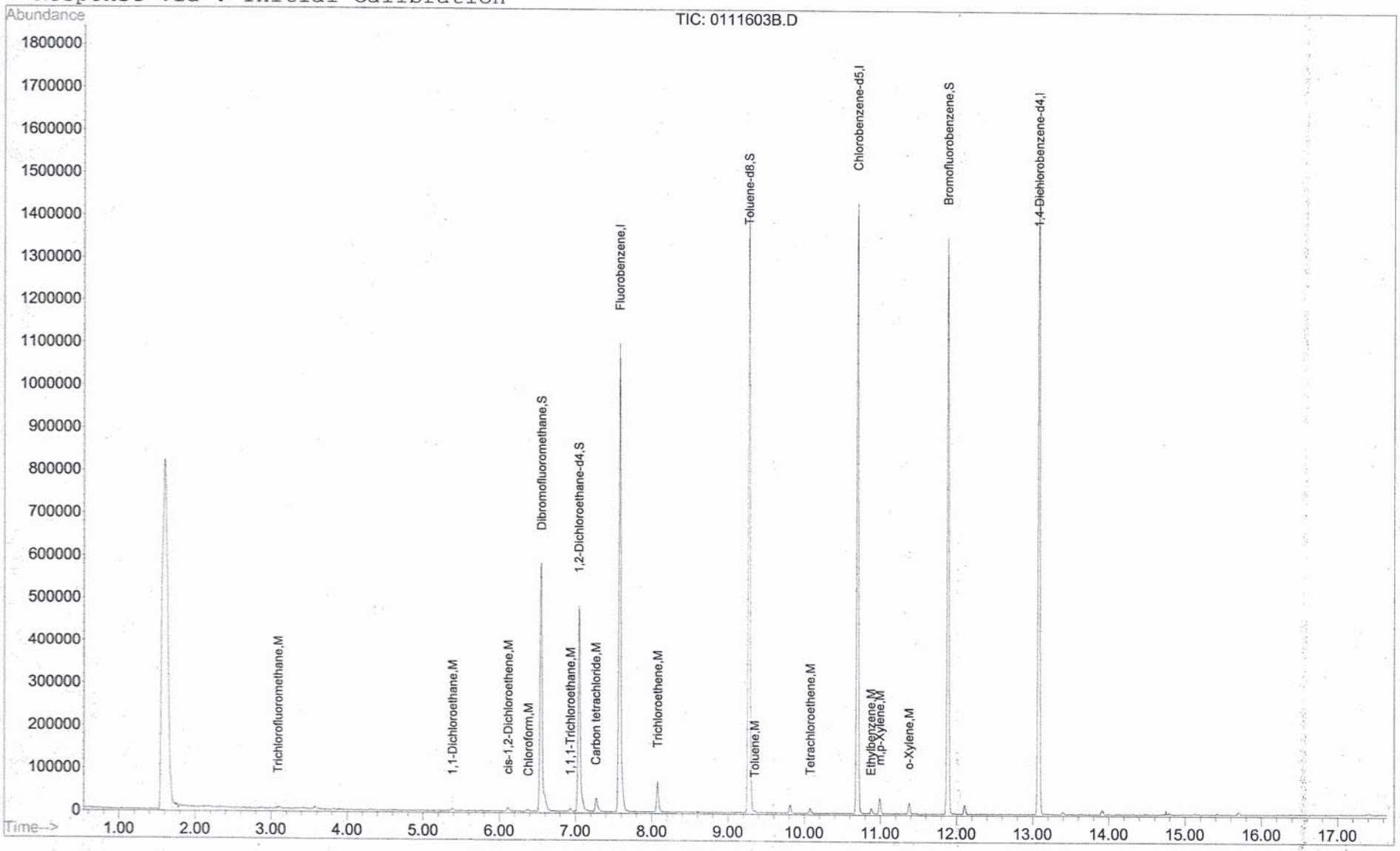
(#) = qualifier out of range (m) = manual integration
0111603B.D 020215W6.M Fri Feb 06 11:01:23 2015 Page 1

Data File : D:\DATA\020415V6\0111603B.D
Acq On : 4 Feb 2015 1:54 pm
Sample : 1501116-03
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 11:01 2015

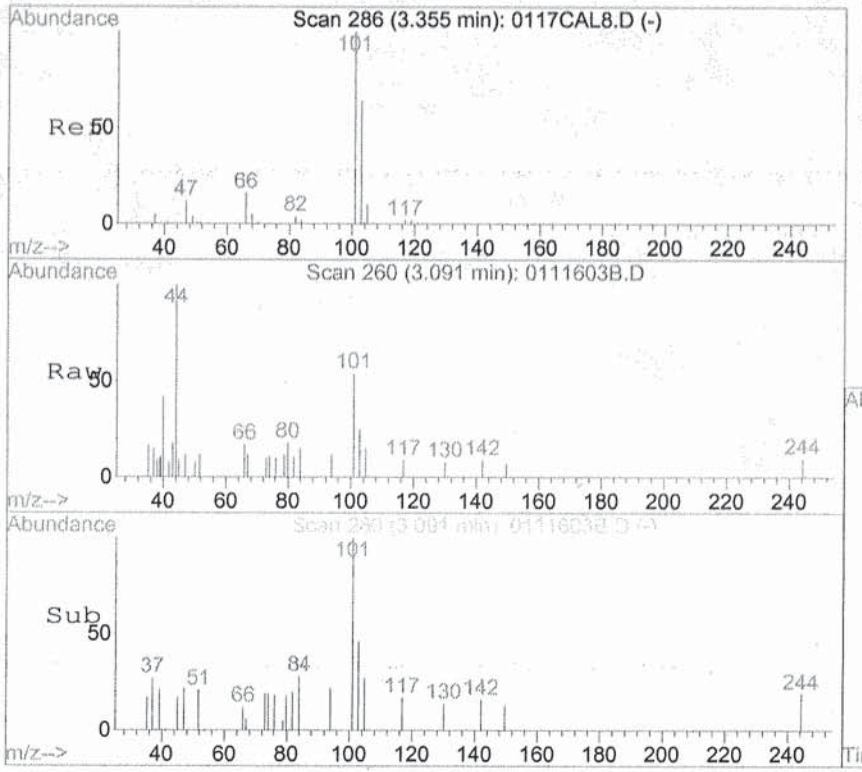
Vial: 15
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration



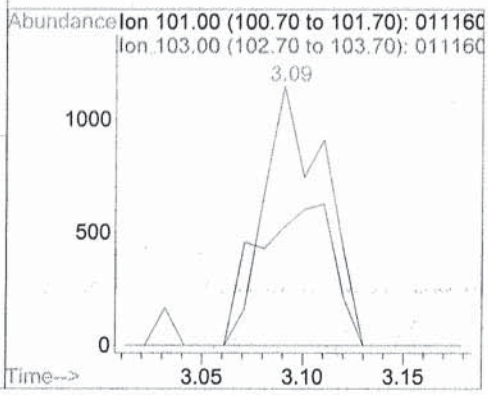
203
1501116

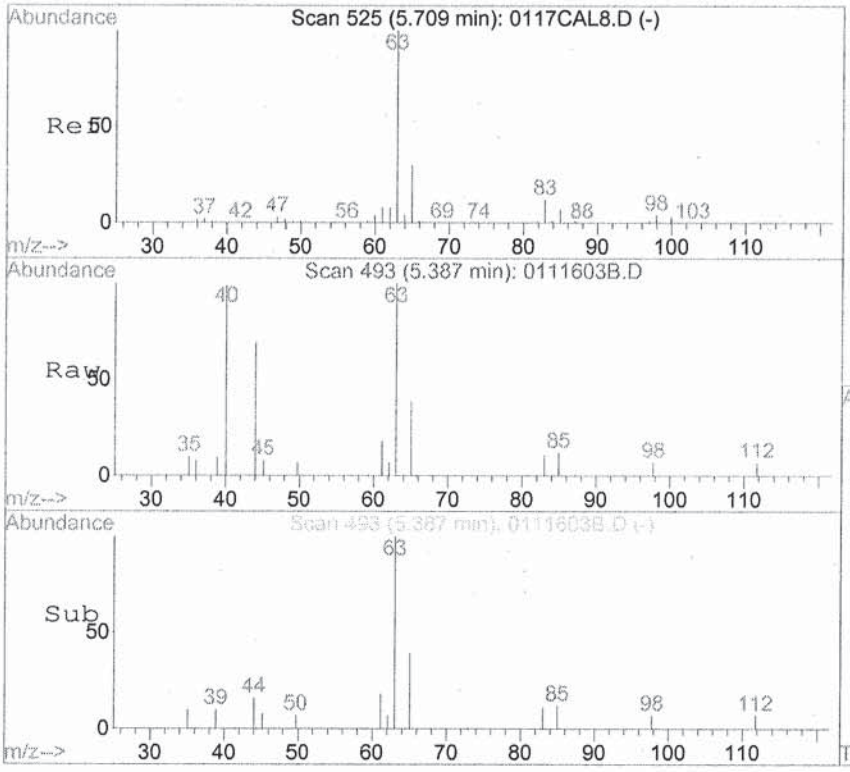


#7
Trichlorofluoromethane
Concen: 0.17 ug/L
RT: 3.09 min Scan# 260
Delta R.T. -0.00 min
Lab File: 0111603B.D
Acq: 4 Feb 2015 1:54 pm

Tgt Ion:101 Resp: 2404

Ion	Ratio	Lower	Upper
101	100		
103	70.1	53.0	79.4

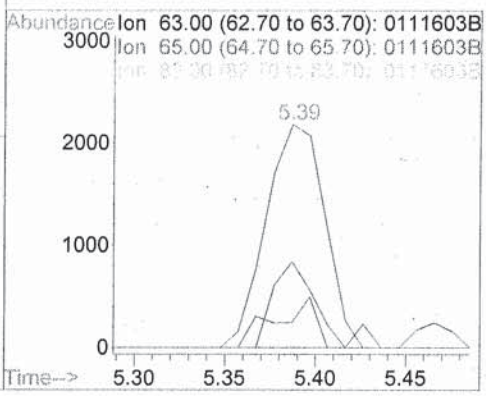


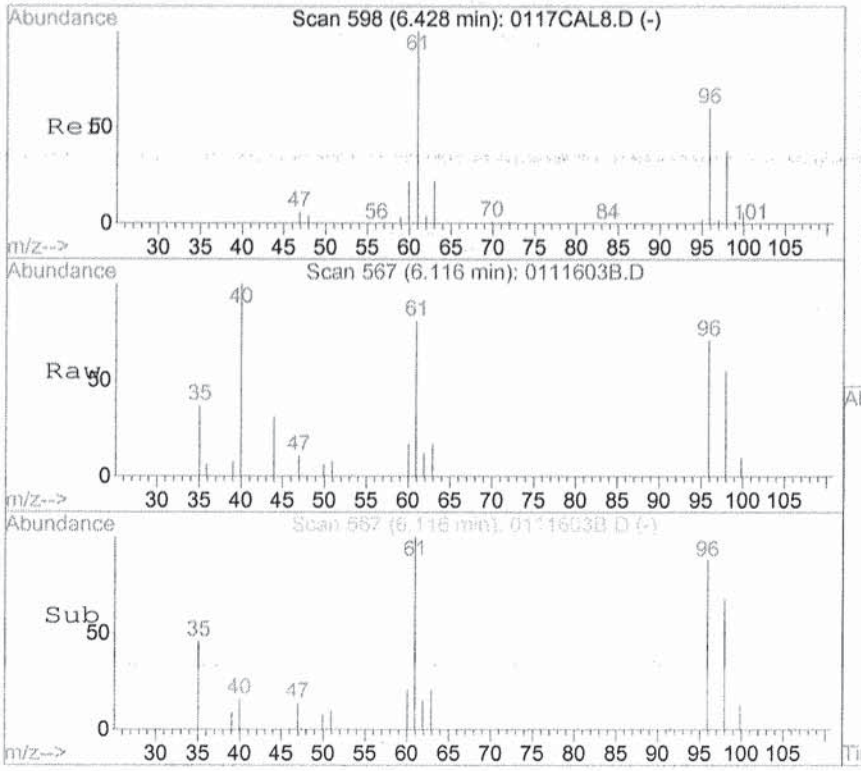


#23
1,1-Dichloroethane
Concen: 0.31 ug/L
RT: 5.39 min Scan# 493
Delta R.T. -0.00 min
Lab File: 0111603B.D
Acq: 4 Feb 2015 1:54 pm

Tgt Ion: 63 Resp: 4904

Ion	Ratio	Lower	Upper
63	100		
65	29.7	24.9	37.3
83	15.6	11.8	17.8

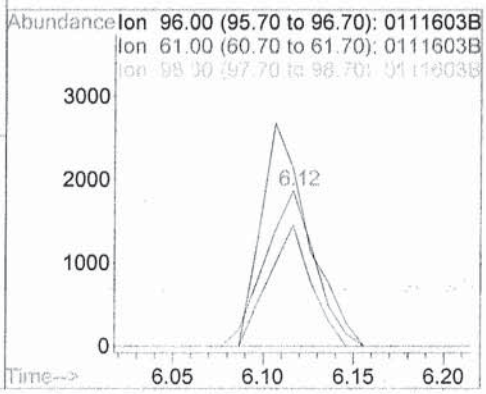


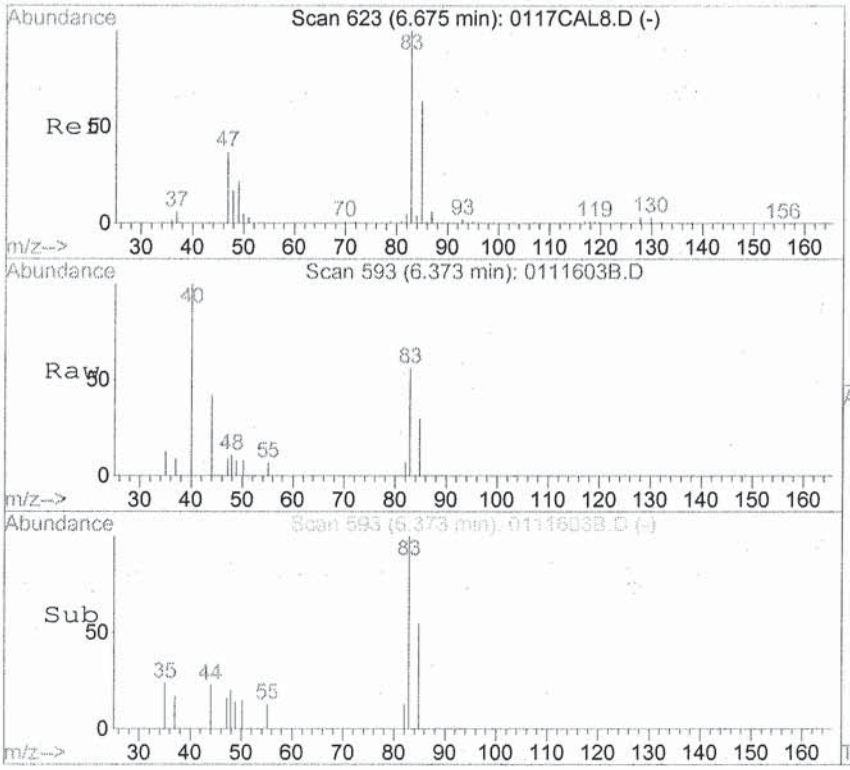


#31
cis-1,2-Dichloroethene
Concen: 0.38 ug/L
RT: 6.12 min Scan# 567
Delta R.T. -0.00 min
Lab File: 0111603B.D
Acq: 4 Feb 2015 1:54 pm

Tgt Ion: 96 Resp: 3616

Ion	Ratio	Lower	Upper
96	100		
61	134.8	110.1	165.1
98	66.2	54.7	82.1

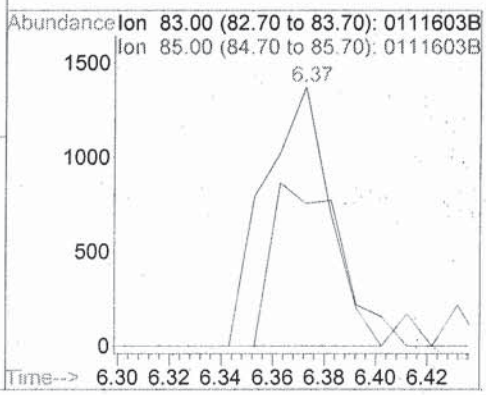


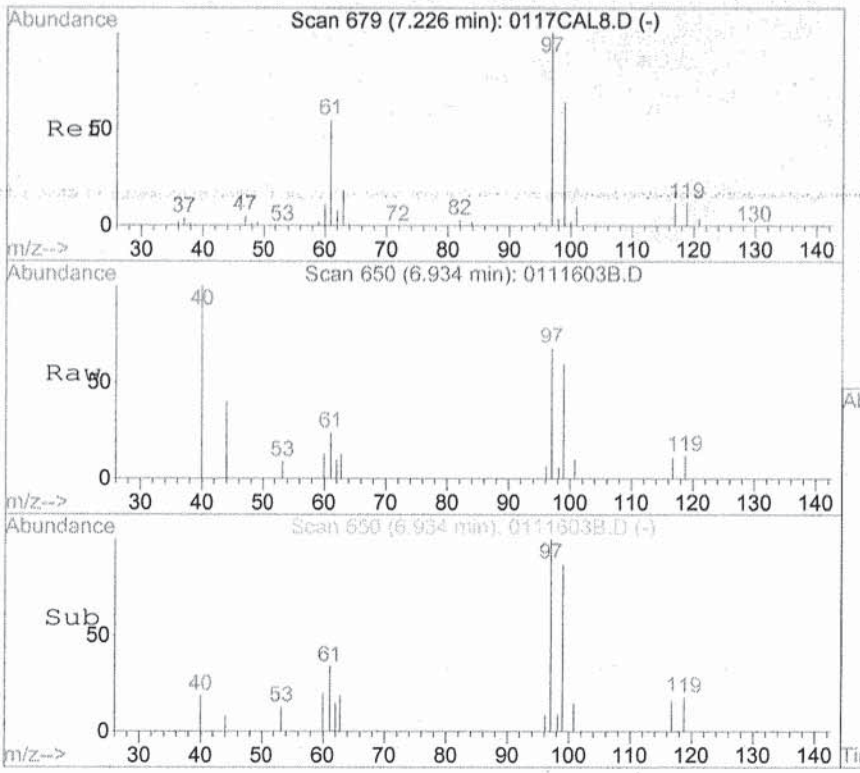


#35
Chloroform
Concen: 0.14 ug/L
RT: 6.37 min Scan# 593
Delta R.T. 0.01 min
Lab File: 0111603B.D
Acq: 4 Feb 2015 1:54 pm

Tgt Ion: 83 Resp: 2417

Ion	Ratio	Lower	Upper
83	100		
85	67.6	51.3	76.9

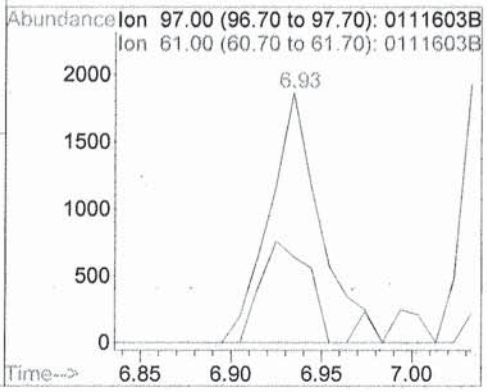


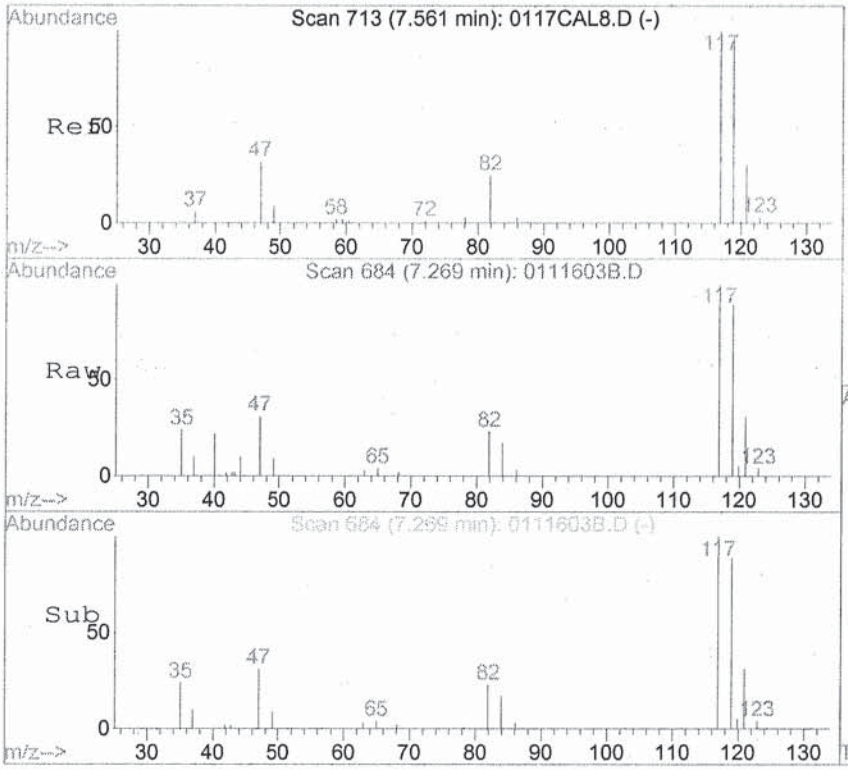


#41
1,1,1-Trichloroethane
Concen: 0.24 ug/L
RT: 6.93 min Scan# 650
Delta R.T. 0.01 min
Lab File: 0111603B.D
Acq: 4 Feb 2015 1:54 pm

Tgt Ion: 97 Resp: 3657

Ion	Ratio	Lower	Upper
97	100		
61	38.3	36.6	54.8

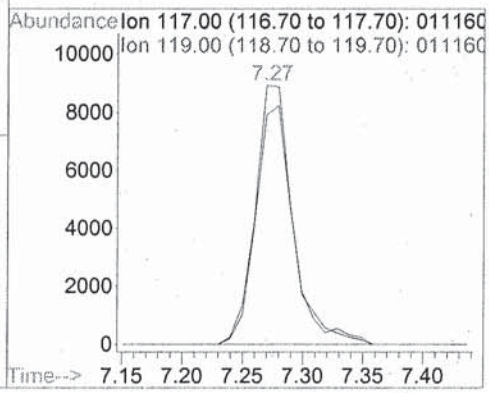


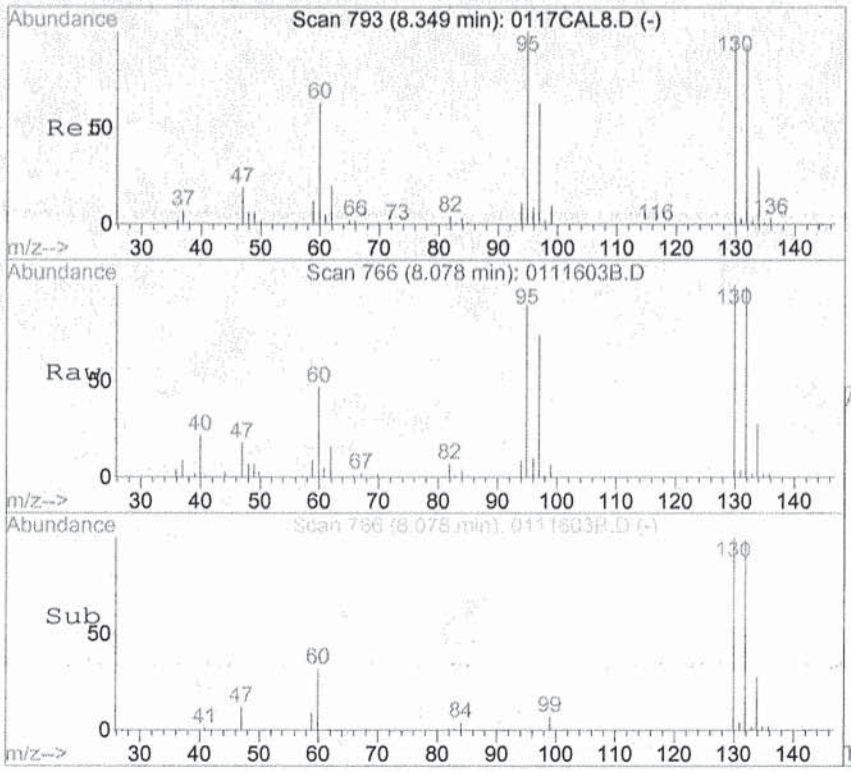


#46
Carbon tetrachloride
Concen: 1.62 ug/L
RT: 7.27 min Scan# 684
Delta R.T. -0.00 min
Lab File: 0111603B.D
Acq: 4 Feb 2015 1:54 pm

Tgt Ion:117 Resp: 19343

Ion	Ratio	Lower	Upper
117	100		
119	92.6	75.4	113.0

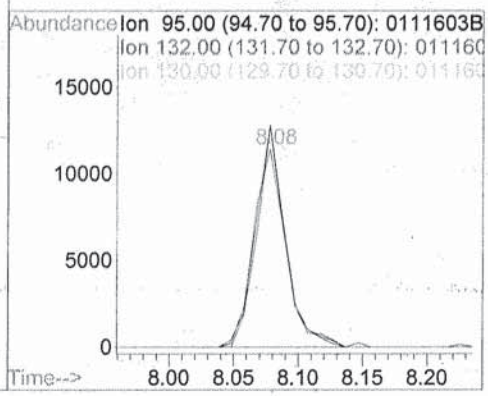


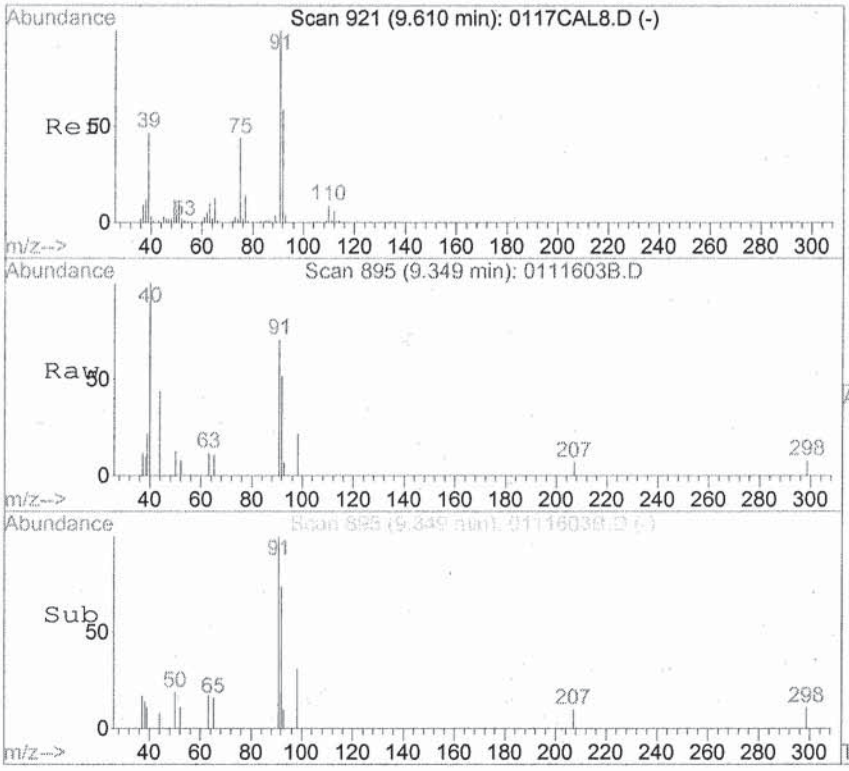


#49
Trichloroethene
Concen: 2.08 ug/L
RT: 8.08 min Scan# 766
Delta R.T. 0.01 min
Lab File: 0111603B.D
Acq: 4 Feb 2015 1:54 pm

Tgt Ion: 95 Resp: 19882

Ion	Ratio	Lower	Upper
95	100		
132	98.2	78.6	118.0
130	104.0	79.6	119.4

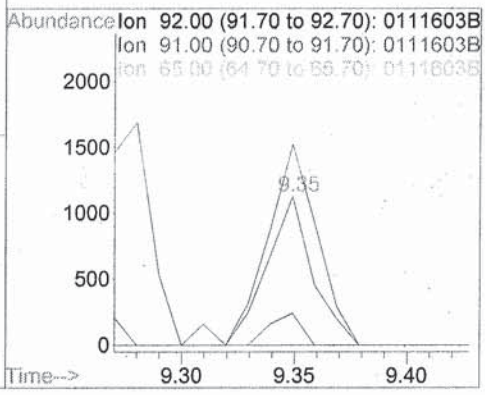


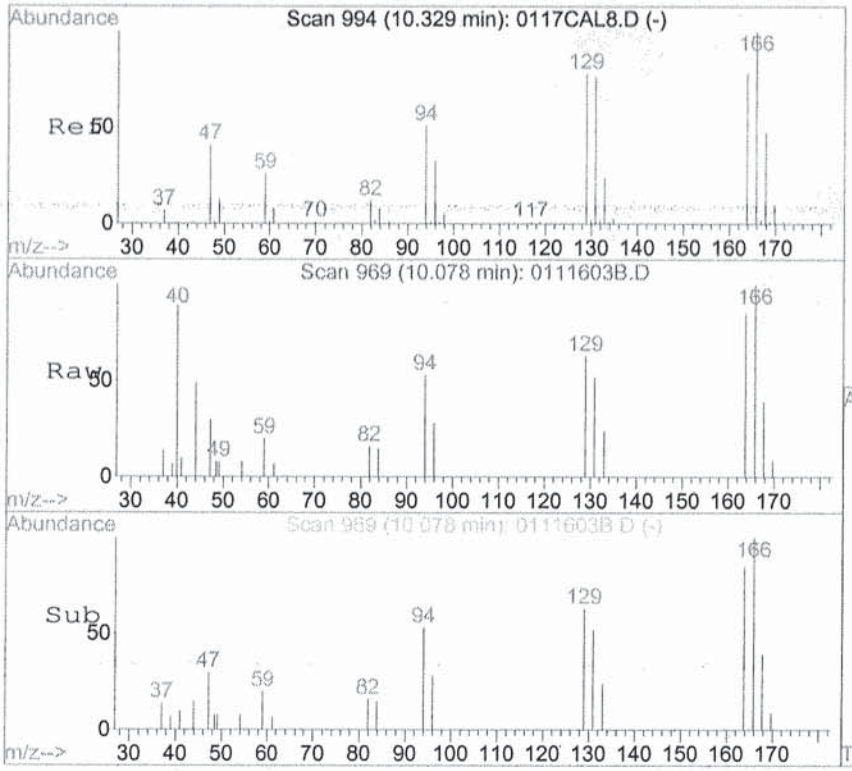


#63
Toluene
Concen: 0.10 ug/L
RT: 9.35 min Scan# 895
Delta R.T. -0.00 min
Lab File: 0111603B.D
Acq: 4 Feb 2015 1:54 pm

Tgt Ion: 92 Resp: 1596

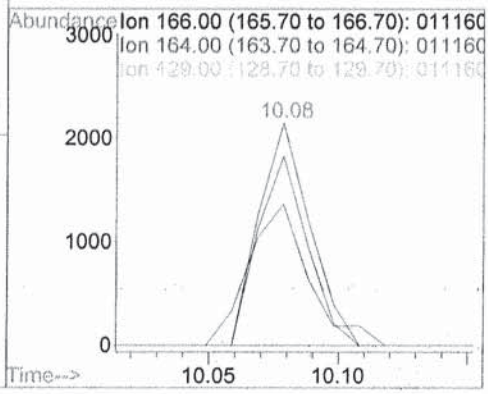
Ion	Ratio	Lower	Upper
92	100		
91	145.5	133.7	200.5
65	14.8	18.1	27.1#

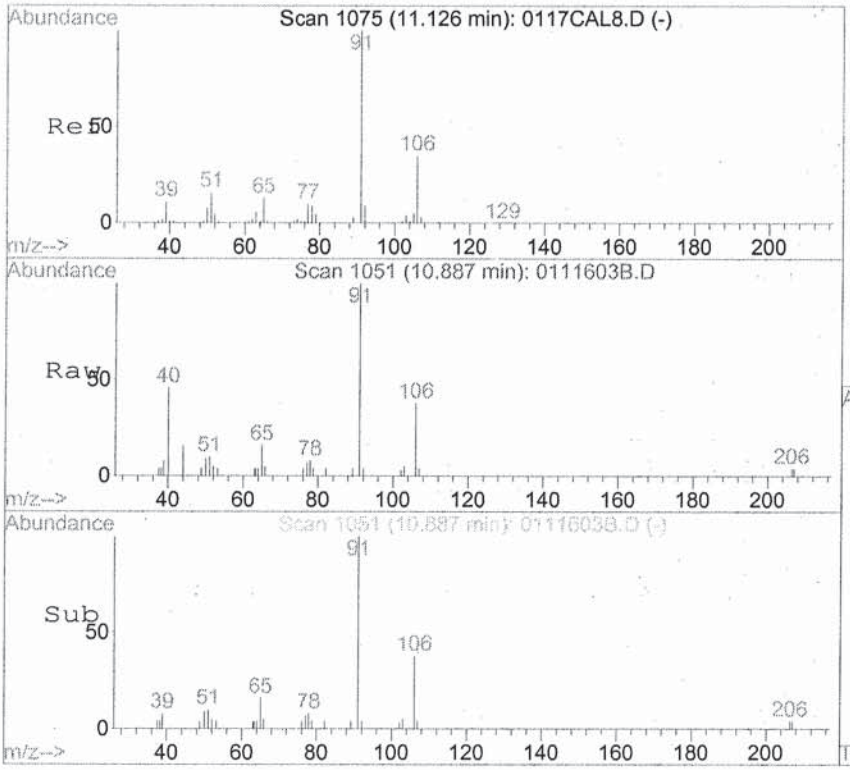




#69
Tetrachloroethene
Concen: 0.31 ug/L
RT: 10.08 min Scan# 969
Delta R.T. -0.00 min
Lab File: 0111603B.D
Acq: 4 Feb 2015 1:54 pm

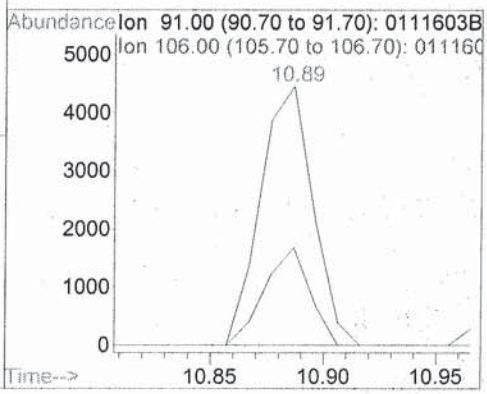
Tgt Ion:166	Resp:	2949	
Ion	Ratio	Lower	Upper
166	100		
164	82.2	60.1	90.1
129	75.1	55.9	83.9

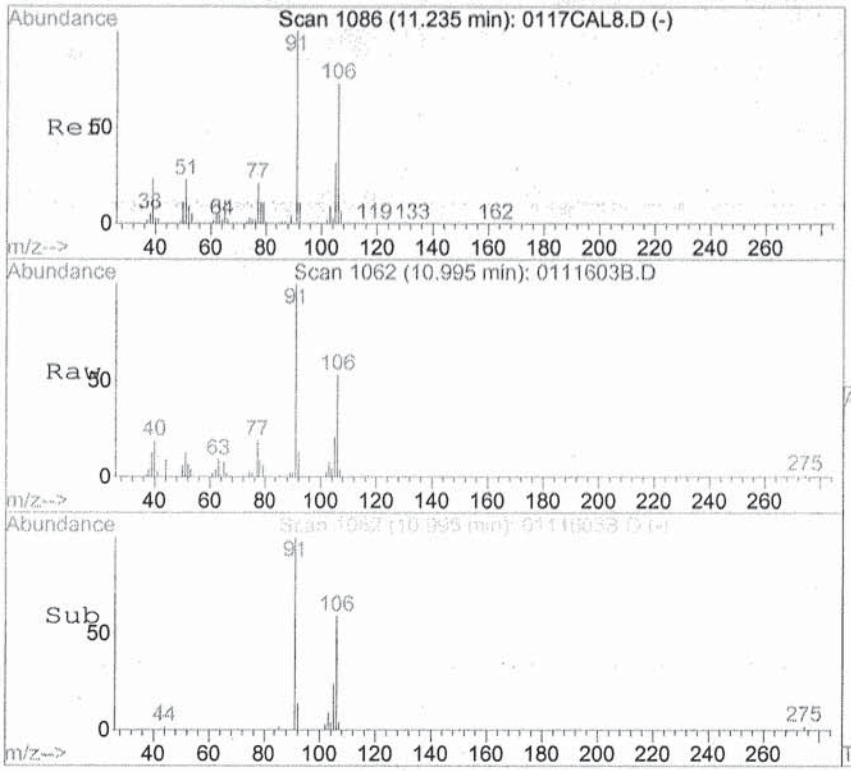




#74
Ethylbenzene
Concen: 0.21 ug/L
RT: 10.89 min Scan# 1051
Delta R.T. -0.00 min
Lab File: 0111603B.D
Acq: 4 Feb 2015 1:54 pm

Tgt Ion: 91	Resp:	7190	
Ion	Ratio	Lower	Upper
91	100		
106	32.6	21.8	32.6

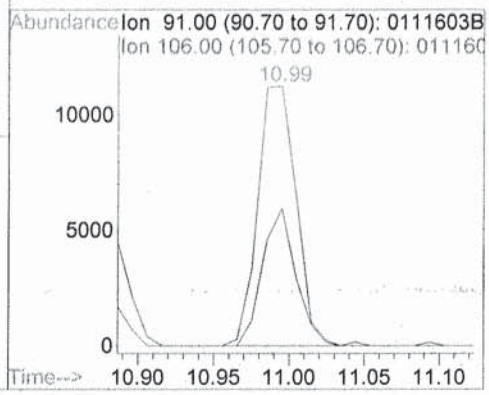


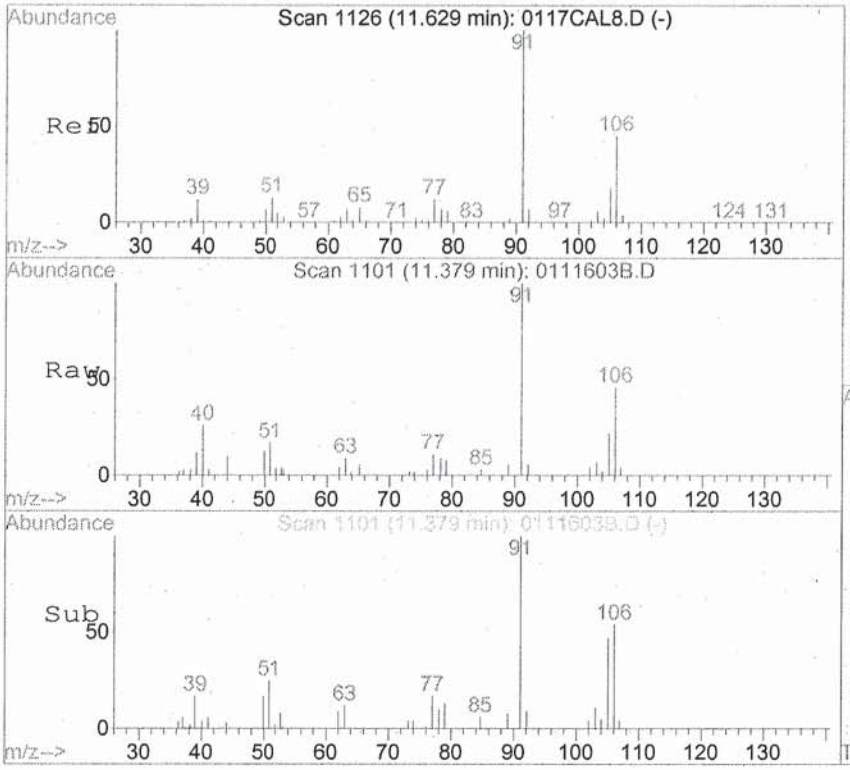


#75
m,p-Xylene
Concen: 0.80 ug/L
RT: 10.99 min Scan# 1062
Delta R.T. -0.00 min
Lab File: 0111603B.D
Acq: 4 Feb 2015 1:54 pm

Tgt Ion: 91 Resp: 19975

Ion	Ratio	Lower	Upper
91	100		
106	46.0	32.2	48.2

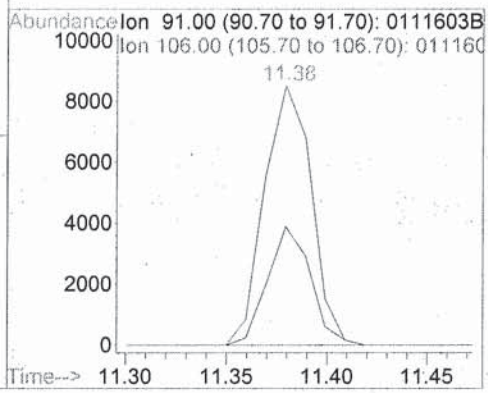




#77
o-Xylene
Concen: 0.54 ug/L
RT: 11.38 min Scan# 1101
Delta R.T. -0.00 min
Lab File: 0111603B.D
Acq: 4 Feb 2015 1:54 pm

Tgt Ion: 91 Resp: 13853

Ion	Ratio	Lower	Upper
91	100		
106	41.7	32.0	48.0



Quantitation Report (QT Reviewed)

Data File : D:\DATA\020415V6\0111604B.D Vial: 16
Acq On : 4 Feb 2015 2:22 pm Operator:
Sample : 1501116-04 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 6 11:02 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.58	96	880645	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.69	82	379333	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.08	152	387192	30.00	ug/L	0.00
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	361971	30.49	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 101.63%			
42) 1,2-Dichloroethane-d4	7.04	102	60834	29.21	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 97.37%			
61) Toluene-d8	9.27	98	837294	29.92	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 99.73%			
82) Bromofluorobenzene	11.88	95	362455	29.85	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 99.50%			
Target Compounds						Qvalue
7) Trichlorofluoromethane	3.09	101	1509	0.1057	ug/L #	47
19) Methylene chloride	4.31	84	1713	0.1755	ug/L #	67
23) 1,1-Dichloroethane	5.40	63	4812	0.3054	ug/L #	88
31) cis-1,2-Dichloroethene	6.11	96	3766	0.3980	ug/L	98
35) Chloroform	6.36	83	2930	0.1630	ug/L	98
41) 1,1,1-Trichloroethane	6.93	97	3851	0.2511	ug/L	97
46) Carbon tetrachloride	7.27	117	17908	1.5011	ug/L	98
49) Trichloroethene	8.08	95	19365	2.0170	ug/L	94
63) Toluene	9.34	92	1717	0.1024	ug/L #	74
69) Tetrachloroethene	10.08	166	2875	0.2987	ug/L	96
74) Ethylbenzene	10.89	91	7645	0.2249	ug/L	94
75) m,p-Xylene	11.00	91	18014	0.7146	ug/L #	86
77) o-Xylene	11.38	91	13325	0.5135	ug/L	91

02/09/15

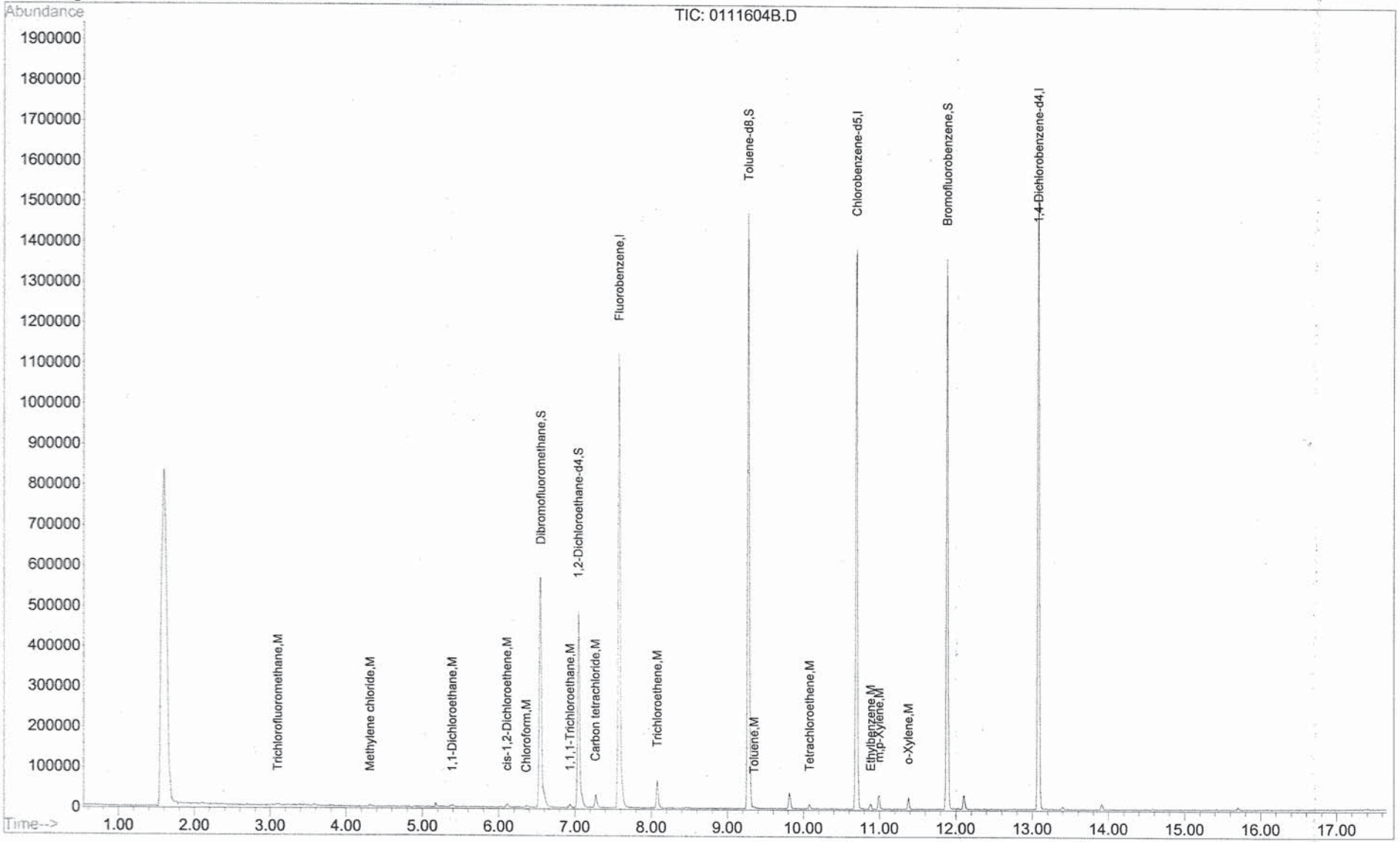
(#) = qualifier out of range (m) = manual integration
0111604B.D 020215W6.M Fri Feb 06 11:03:03 2015 Page 1

Data File : D:\DATA\020415V6\0111604B.D
Acq On : 4 Feb 2015 2:22 pm
Sample : 1501116-04
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 11:02 2015

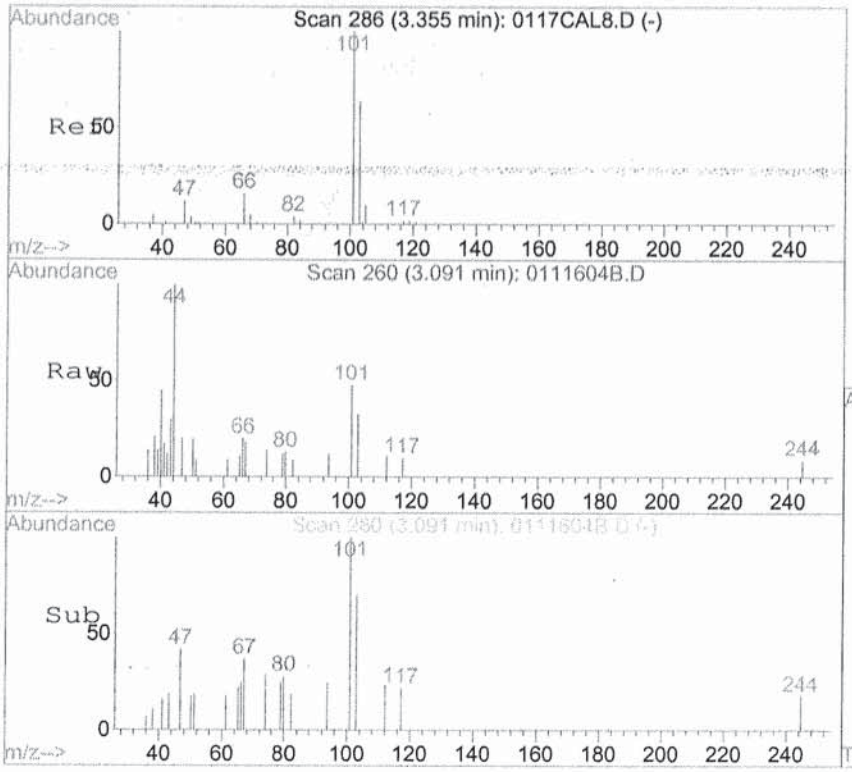
Vial: 16
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration



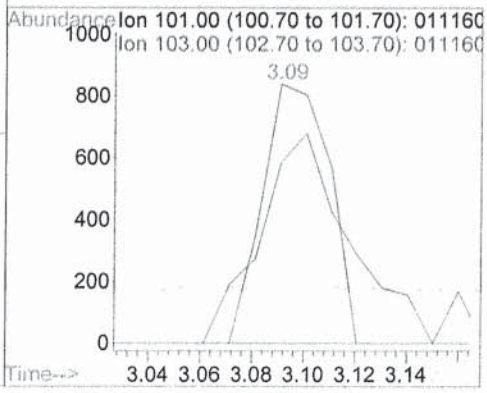
211
1501116

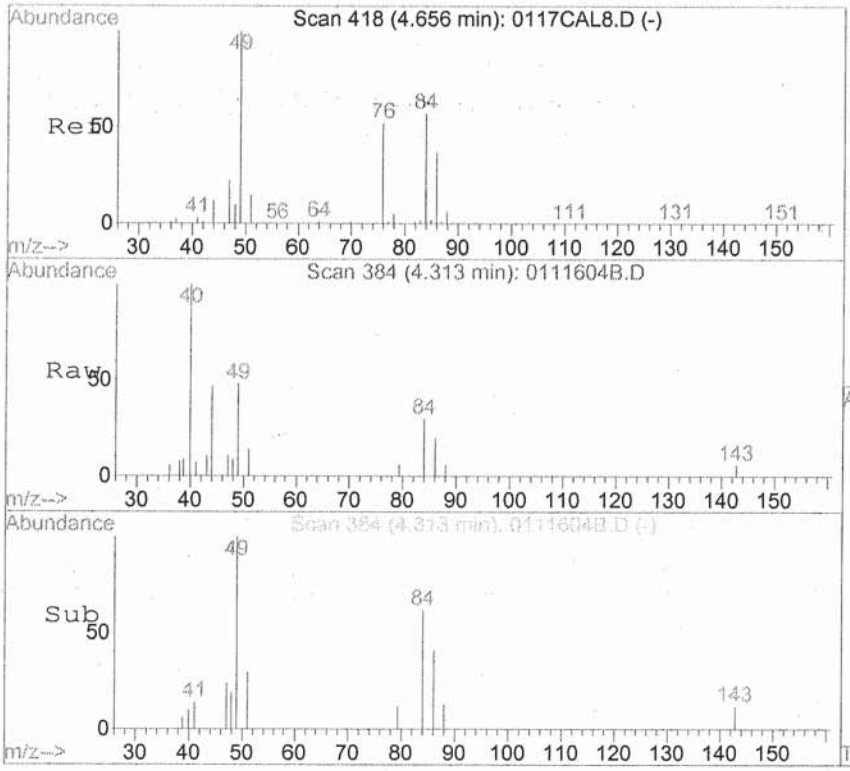


#7
Trichlorofluoromethane
Concen: 0.11 ug/L
RT: 3.09 min Scan# 260
Delta R.T. -0.00 min
Lab File: 0111604B.D
Acq: 4 Feb 2015 2:22 pm

Tgt Ion:101 Resp: 1509

Ion	Ratio	Lower	Upper
101	100		
103	108.7	53.0	79.4#

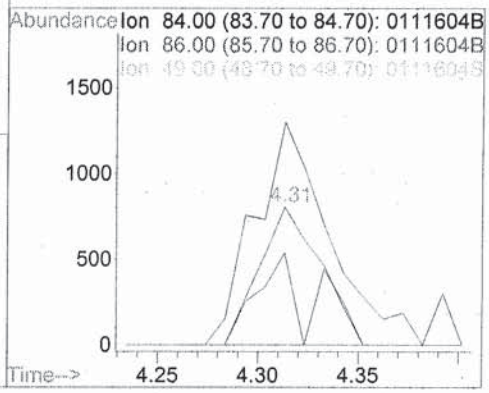


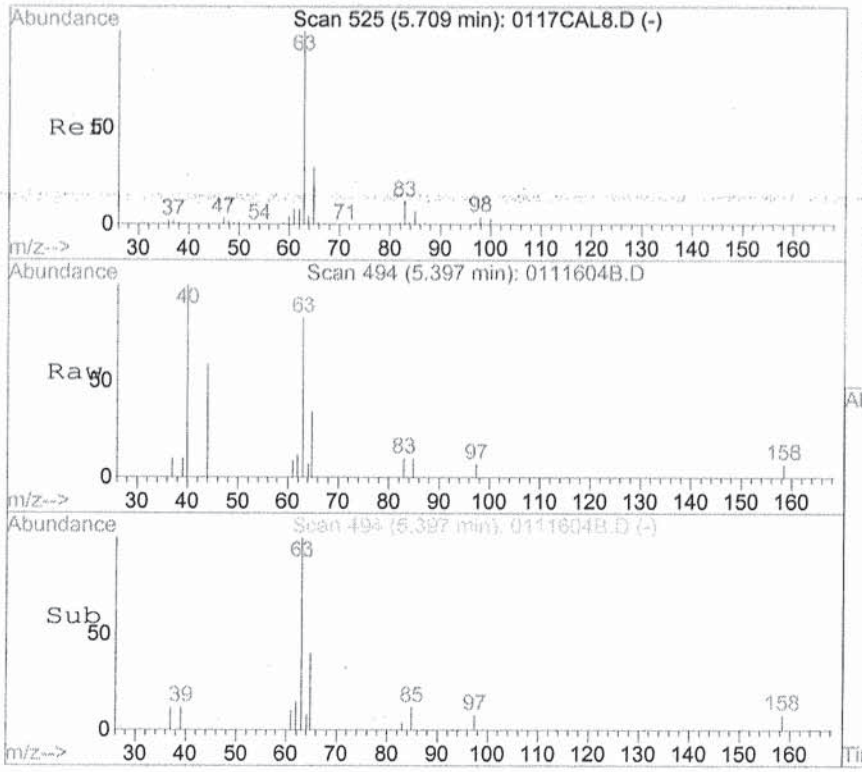


#19
Methylene chloride
Concen: 0.18 ug/L
RT: 4.31 min Scan# 384
Delta R.T. -0.00 min
Lab File: 0111604B.D
Acq: 4 Feb 2015 2:22 pm

Tgt Ion: 84 Resp: 1713

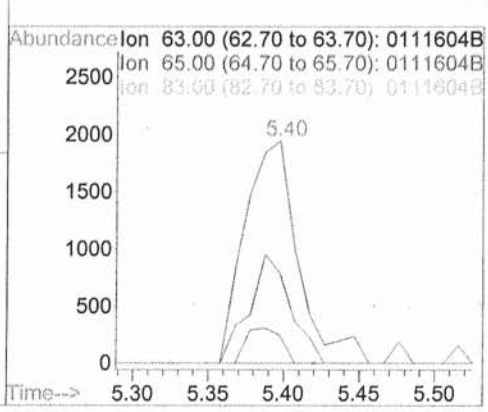
Ion	Ratio	Lower	Upper
84	100		
86	38.9	54.3	81.5#
49	197.0	124.5	186.7#

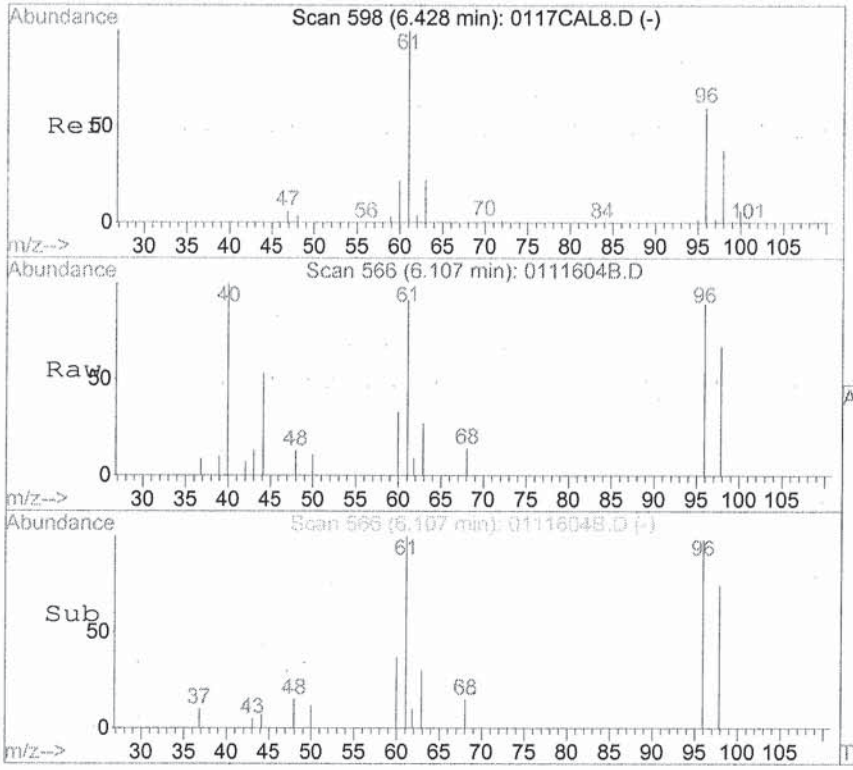




#23
1,1-Dichloroethane
Concen: 0.31 ug/L
RT: 5.40 min Scan# 494
Delta R.T. 0.01 min
Lab File: 0111604B.D
Acq: 4 Feb 2015 2:22 pm

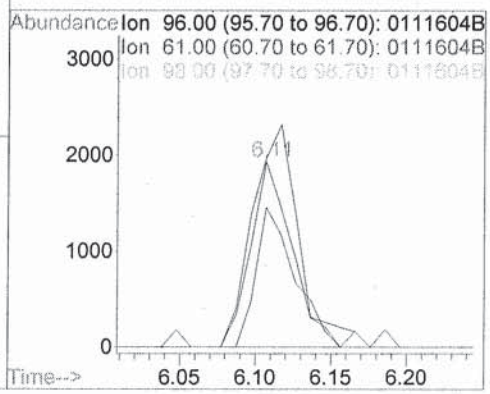
Tgt Ion: 63	Resp:	4812	
Ion	Ratio	Lower	Upper
63	100		
65	37.9	24.9	37.3#
83	10.3	11.8	17.8#

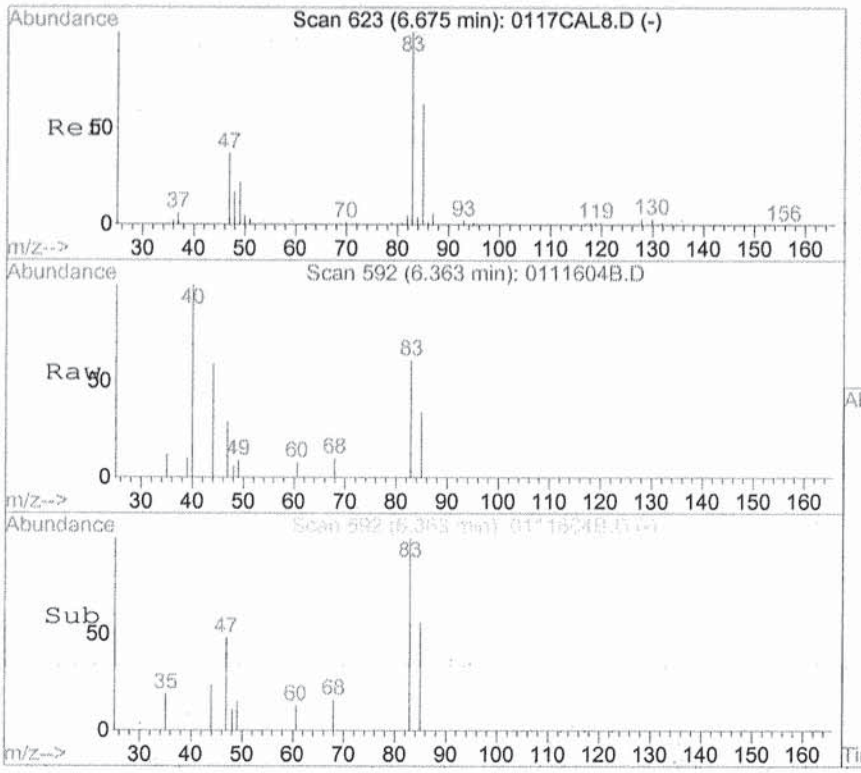




#31
cis-1,2-Dichloroethene
Concen: 0.40 ug/L
RT: 6.11 min Scan# 566
Delta R.T. -0.01 min
Lab File: 0111604B.D
Acq: 4 Feb 2015 2:22 pm

Tgt Ion: 96	Resp:	3766	
Ion	Ratio	Lower	Upper
96	100		
61	134.5	110.1	165.1
98	69.2	54.7	82.1

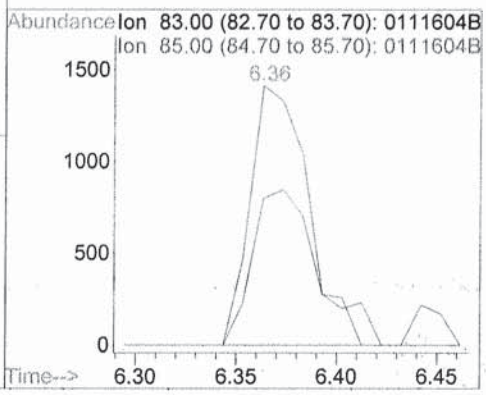


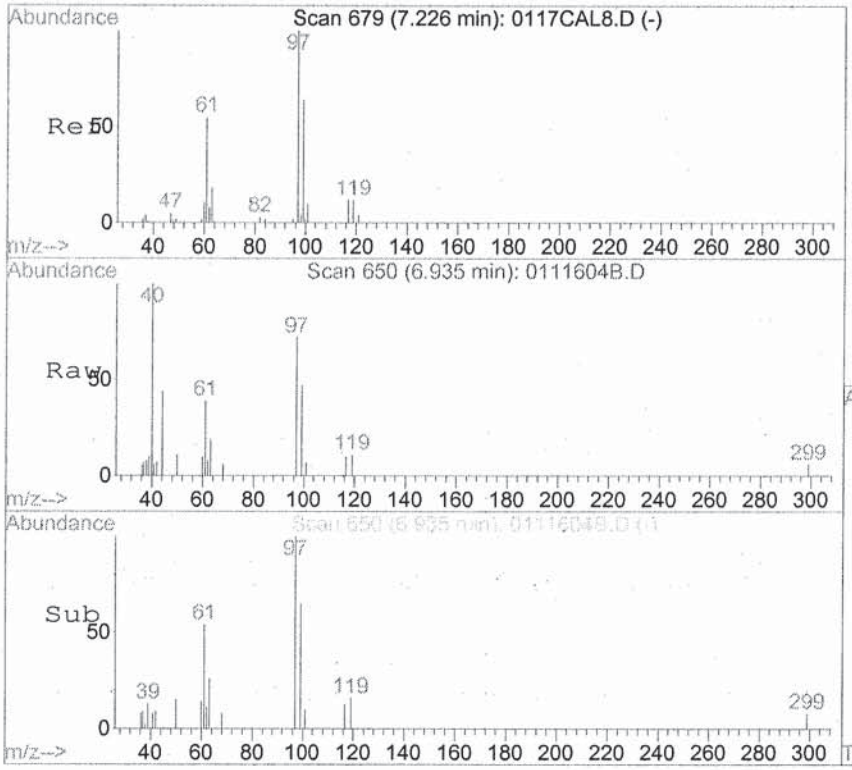


#35
Chloroform
Concen: 0.16 ug/L
RT: 6.36 min Scan# 592
Delta R.T. -0.00 min
Lab File: 0111604B.D
Acq: 4 Feb 2015 2:22 pm

Tgt Ion: 83 Resp: 2930

Ion	Ratio	Lower	Upper
83	100		
85	62.6	51.3	76.9

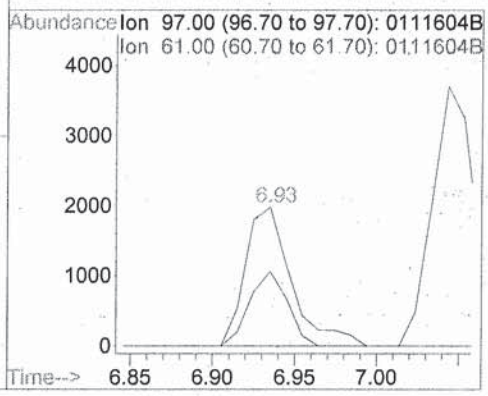


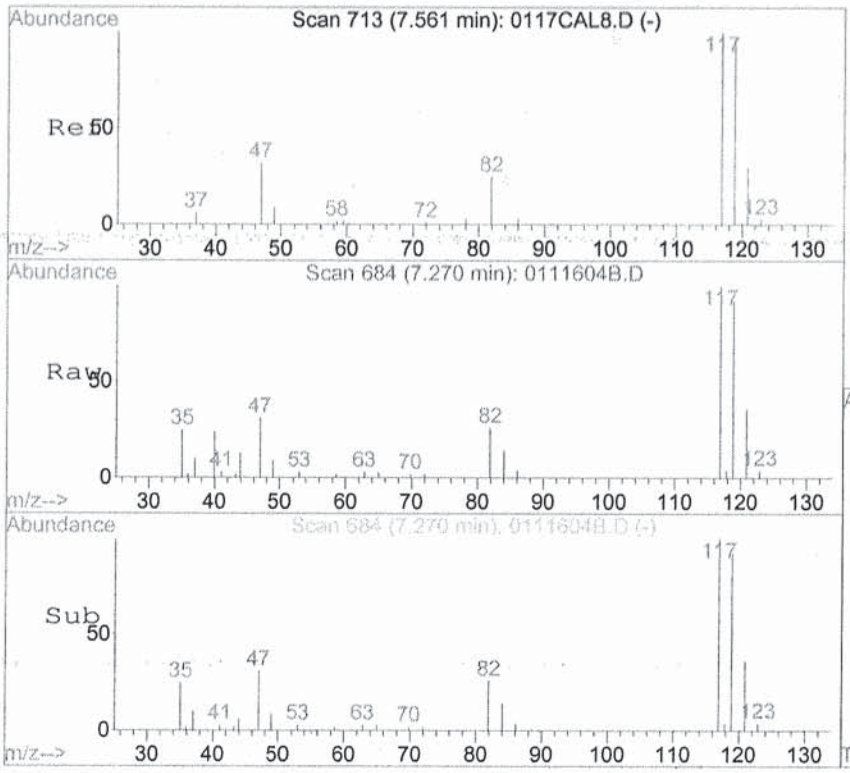


#41
1,1,1-Trichloroethane
Concen: 0.25 ug/L
RT: 6.93 min Scan# 650
Delta R.T. 0.01 min
Lab File: 0111604B.D
Acq: 4 Feb 2015 2:22 pm

Tgt Ion: 97 Resp: 3851

Ion	Ratio	Lower	Upper
97	100		
61	43.9	36.6	54.8

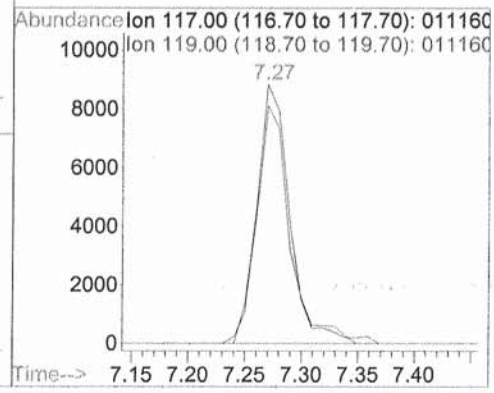


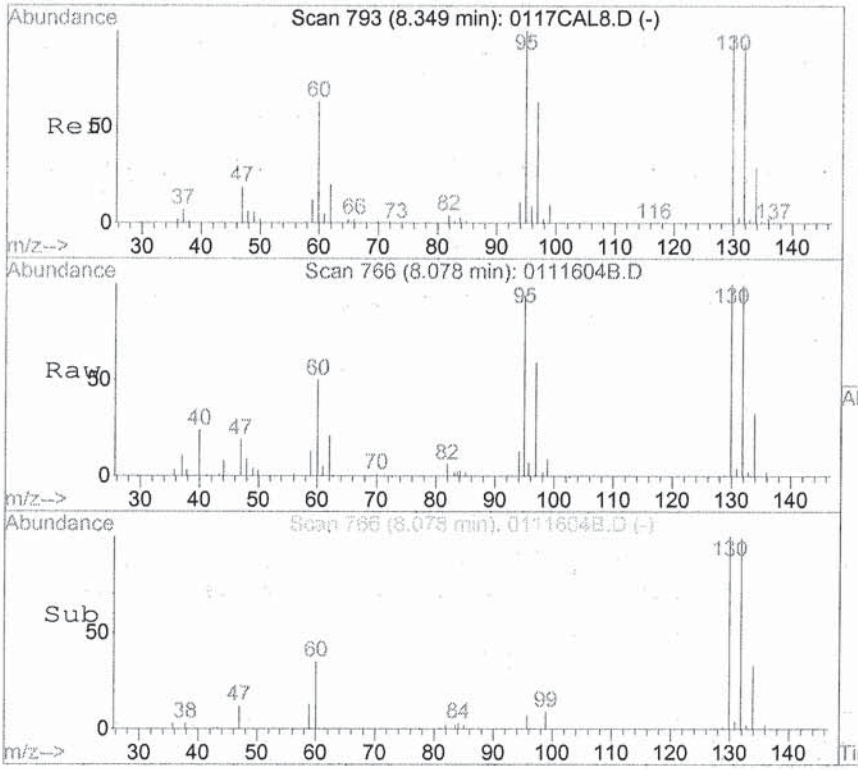


#46
Carbon tetrachloride
Concen: 1.50 ug/L
RT: 7.27 min Scan# 684
Delta R.T. -0.00 min
Lab File: 0111604B.D
Acq: 4 Feb 2015 2:22 pm

Tgt Ion:117 Resp: 17908

Ion	Ratio	Lower	Upper
117	100		
119	92.3	75.4	113.0

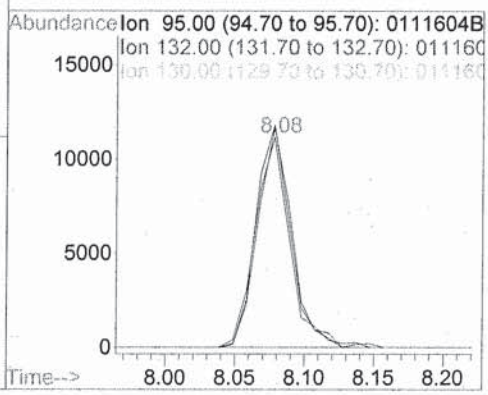


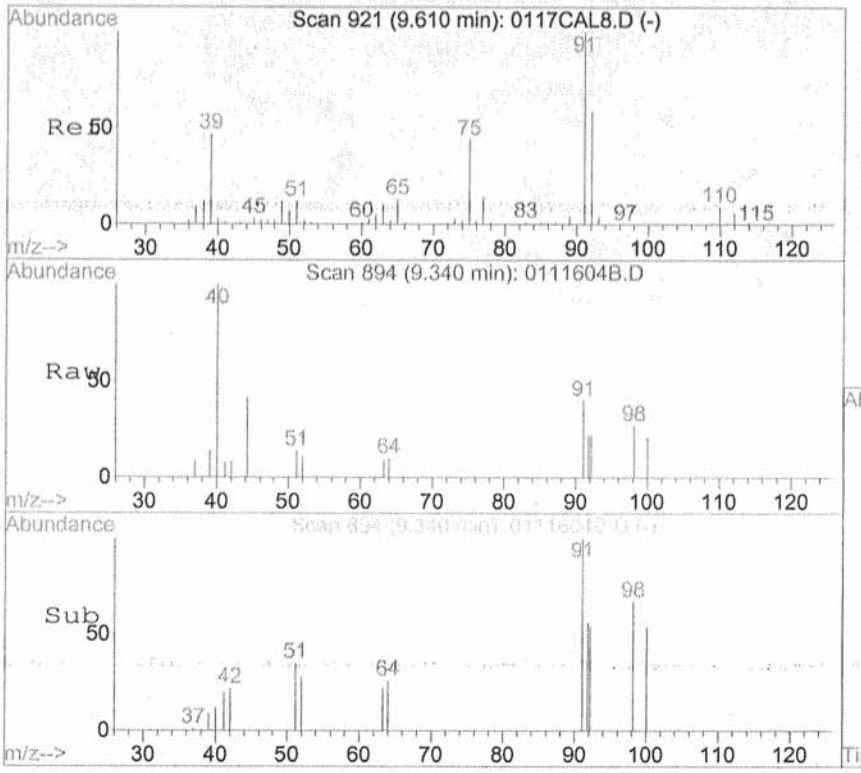


#49
Trichloroethene
Concen: 2.02 ug/L
RT: 8.08 min Scan# 766
Delta R.T. 0.01 min
Lab File: 0111604B.D
Acq: 4 Feb 2015 2:22 pm

Tgt Ion: 95 Resp: 19365

Ion	Ratio	Lower	Upper
95	100		
132	102.4	78.6	118.0
130	106.7	79.6	119.4

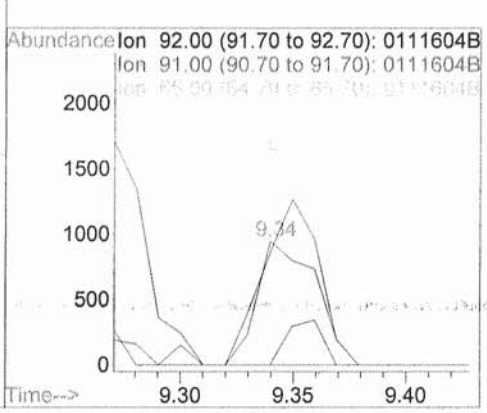


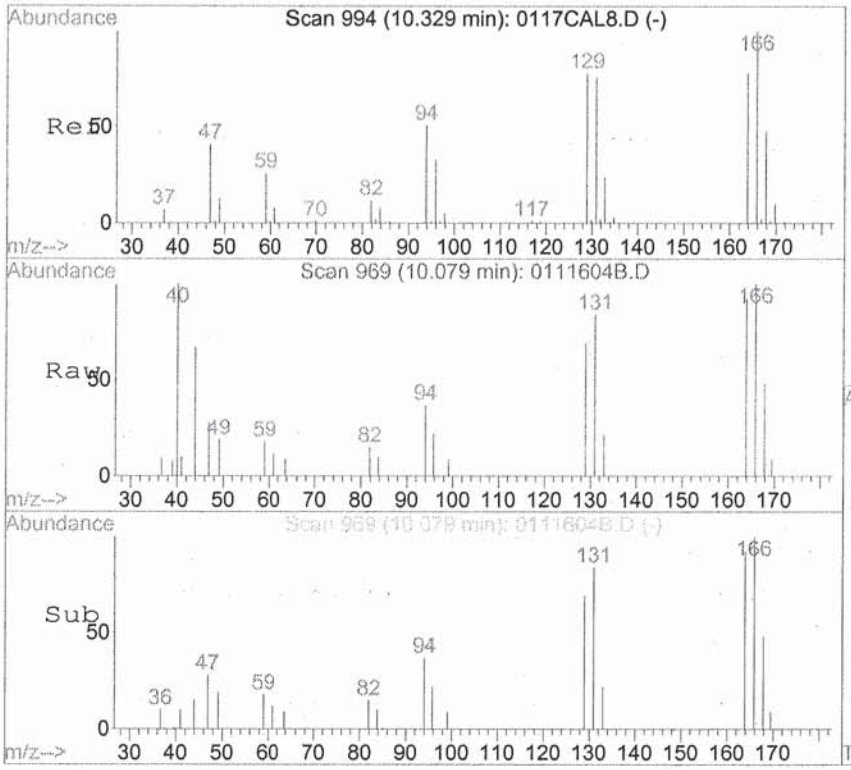


#63
Toluene
Concen: 0.10 ug/L
RT: 9.34 min Scan# 894
Delta R.T. -0.01 min
Lab File: 0111604B.D
Acq: 4 Feb 2015 2:22 pm

Tgt Ion: 92 Resp: 1717

Ion	Ratio	Lower	Upper
92	100		
91	126.6	133.7	200.5#
65	22.0	18.1	27.1

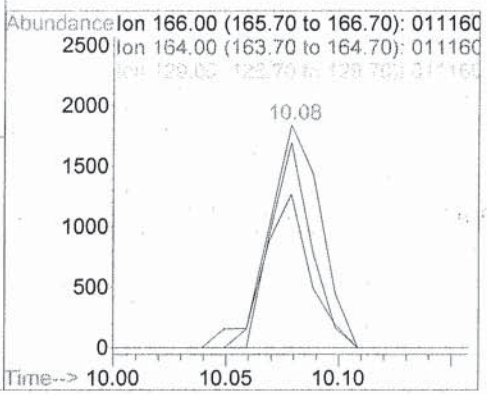


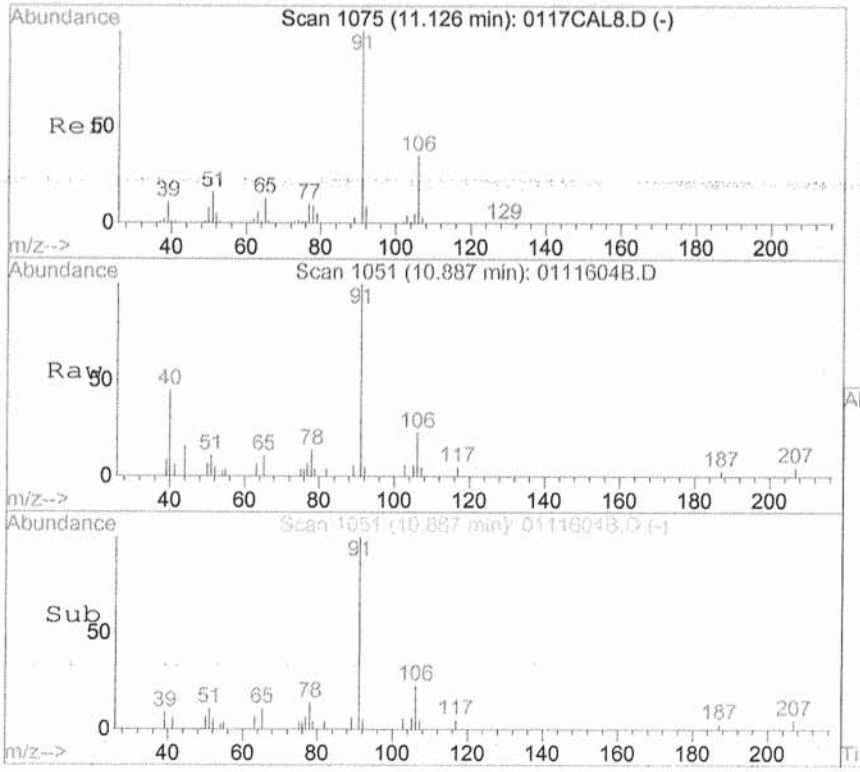


#69
Tetrachloroethene
Concen: 0.30 ug/L
RT: 10.08 min Scan# 969
Delta R.T. -0.00 min
Lab File: 0111604B.D
Acq: 4 Feb 2015 2:22 pm

Tgt Ion:166 Resp: 2875

Ion	Ratio	Lower	Upper
166	100		
164	73.2	60.1	90.1
129	64.7	55.9	83.9

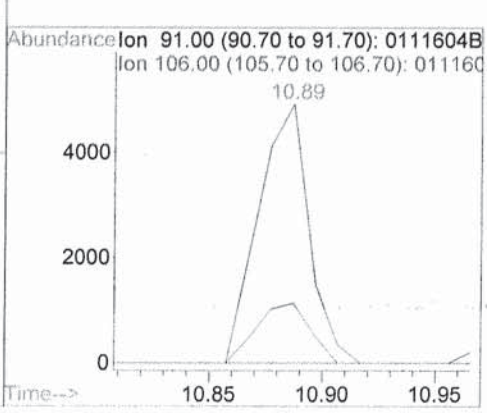


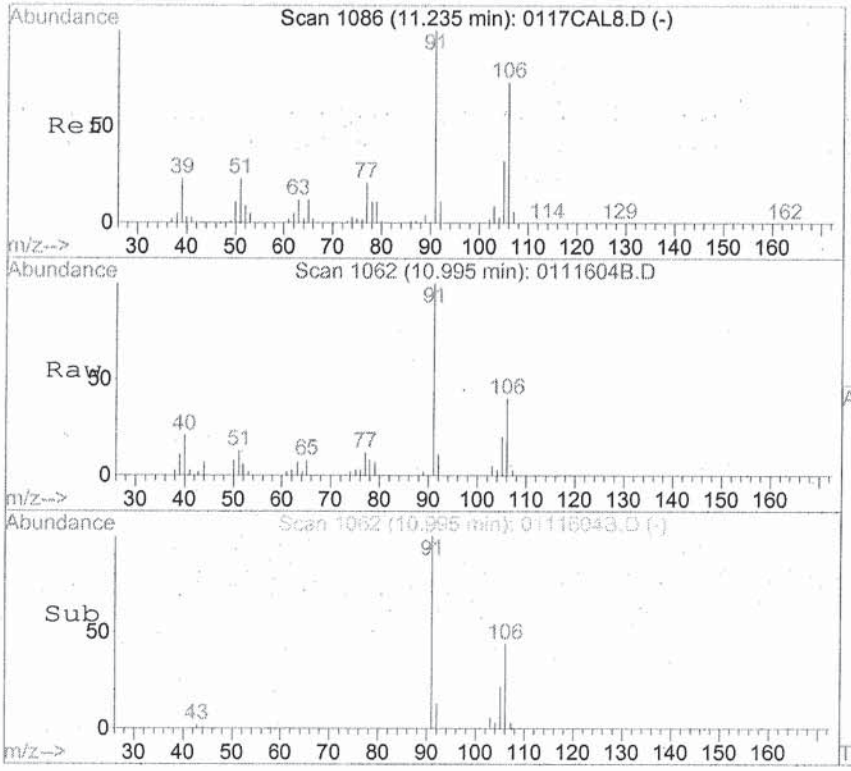


#74
Ethylbenzene
Concen: 0.22 ug/L
RT: 10.89 min Scan# 1051
Delta R.T. -0.00 min
Lab File: 0111604B.D
Acq: 4 Feb 2015 2:22 pm

Tgt Ion: 91 Resp: 7645

Ion	Ratio	Lower	Upper
91	100		
106	24.2	21.8	32.6

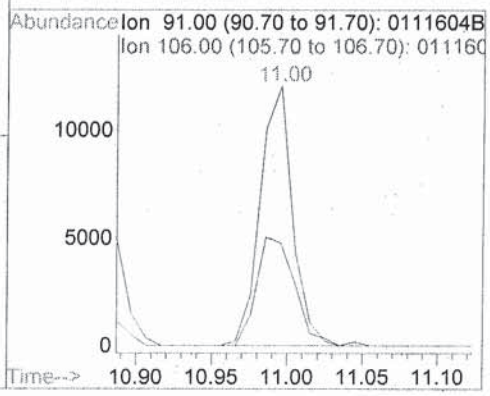


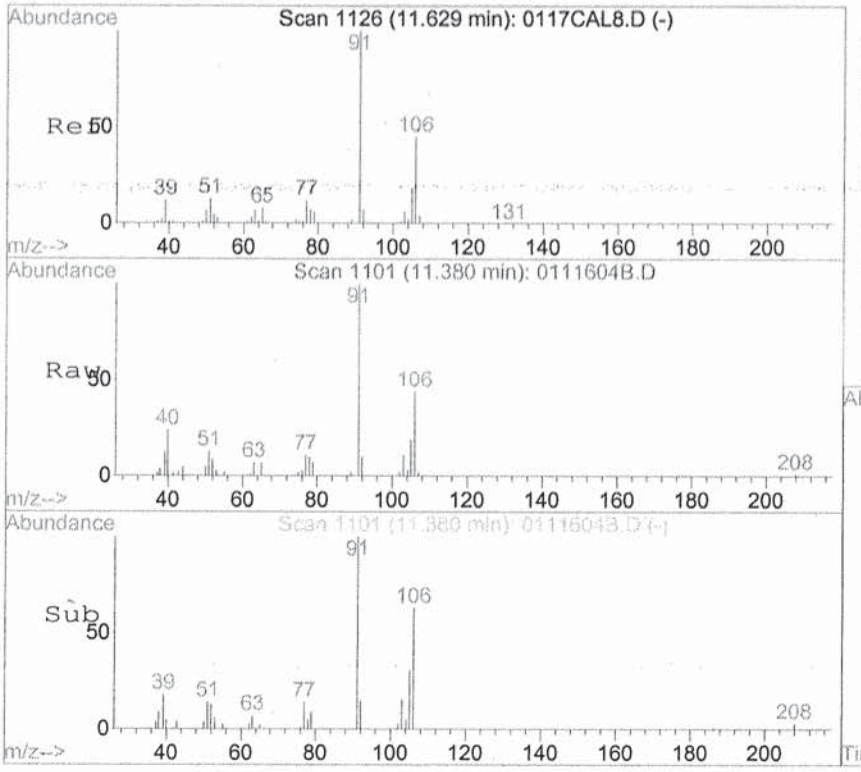


#75
m,p-Xylene
Concen: 0.71 ug/L
RT: 11.00 min Scan# 1062
Delta R.T. -0.00 min
Lab File: 0111604B.D
Acq: 4 Feb 2015 2:22 pm

Tgt Ion: 91 Resp: 18014

Ion	Ratio	Lower	Upper
91	100		
106	49.2	32.2	48.2#

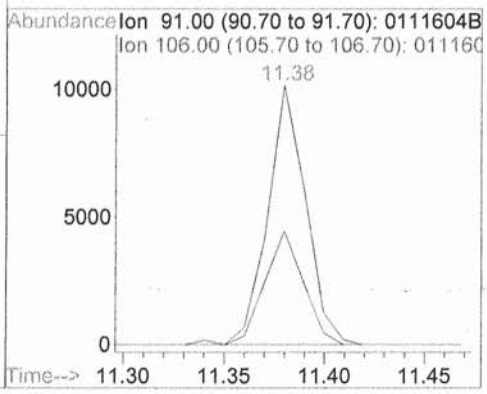




#77
o-Xylene
Concen: 0.51 ug/L
RT: 11.38 min Scan# 1101
Delta R.T. -0.00 min
Lab File: 0111604B.D
Acq: 4 Feb 2015 2:22 pm

Tgt Ion: 91 Resp: 13325

Ion	Ratio	Lower	Upper
91	100		
106	45.5	32.0	48.0



Quantitation Report (QT Reviewed)

Data File : D:\DATA\020415V6\0111607B.D Vial: 17
Acq On : 4 Feb 2015 2:49 pm Operator:
Sample : 1501116-07 Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 6 11:04 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.57	96	844288	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.70	82	367180	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.08	152	361023	30.00	ug/L	0.00
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	356719	31.34	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 104.47%			
42) 1,2-Dichloroethane-d4	7.04	102	58856	29.48	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 98.27%			
61) Toluene-d8	9.27	98	798755	29.48	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 98.27%			
82) Bromofluorobenzene	11.88	95	350446	29.82	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 99.40%			
Target Compounds						Qvalue
19) Methylene chloride	4.31	84	1125	0.1202	ug/L	94
35) Chloroform	6.37	83	146697	8.5131	ug/L	96
46) Carbon tetrachloride	7.28	117	1115313	77.1871	ug/L	100
49) Trichloroethene	8.08	95	117103	12.7223	ug/L	97
63) Toluene	9.35	92	1482	0.0913	ug/L	91
74) Ethylbenzene	10.89	91	8278	0.2516	ug/L #	86
75) m,p-Xylene	10.99	91	17199	0.7049	ug/L	92
77) o-Xylene	11.38	91	13741	0.5471	ug/L	99

02/09/15

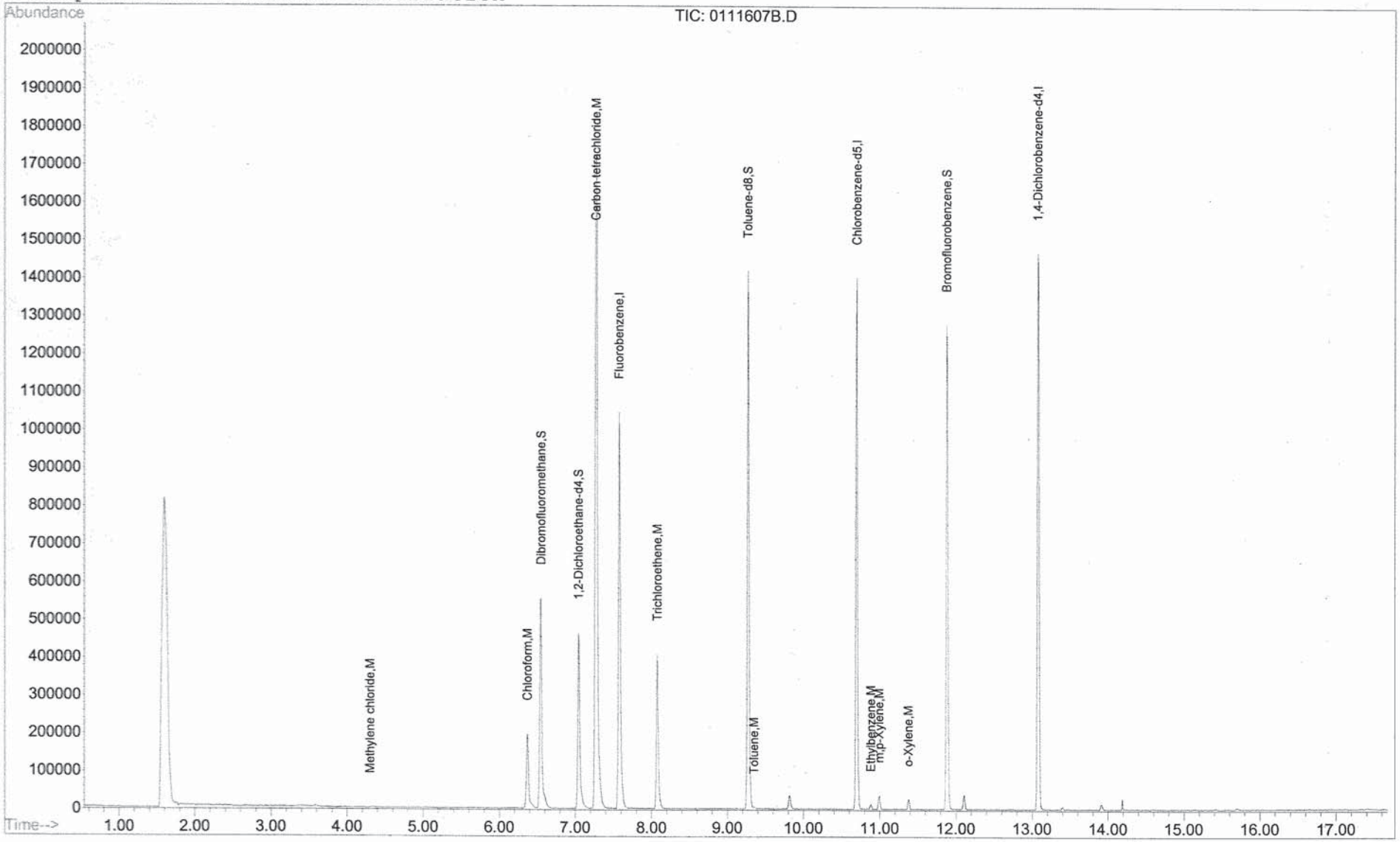
(#) = qualifier out of range (m) = manual integration
0111607B.D 020215W6.M Fri Feb 06 11:04:30 2015 Page 1

Data File : D:\DATA\020415V6\0111607B.D
Acq On : 4 Feb 2015 2:49 pm
Sample : 1501116-07
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 11:04 2015

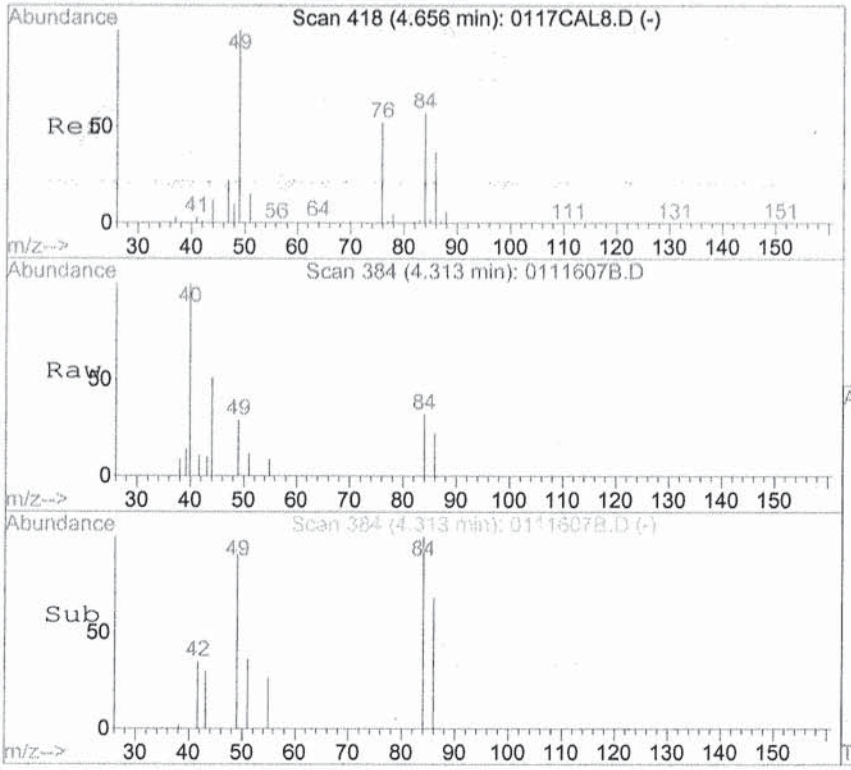
Vial: 17
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration



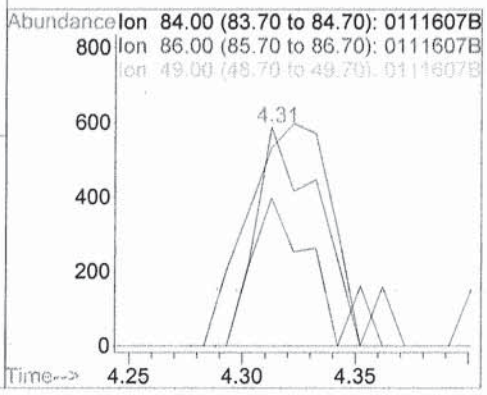
220
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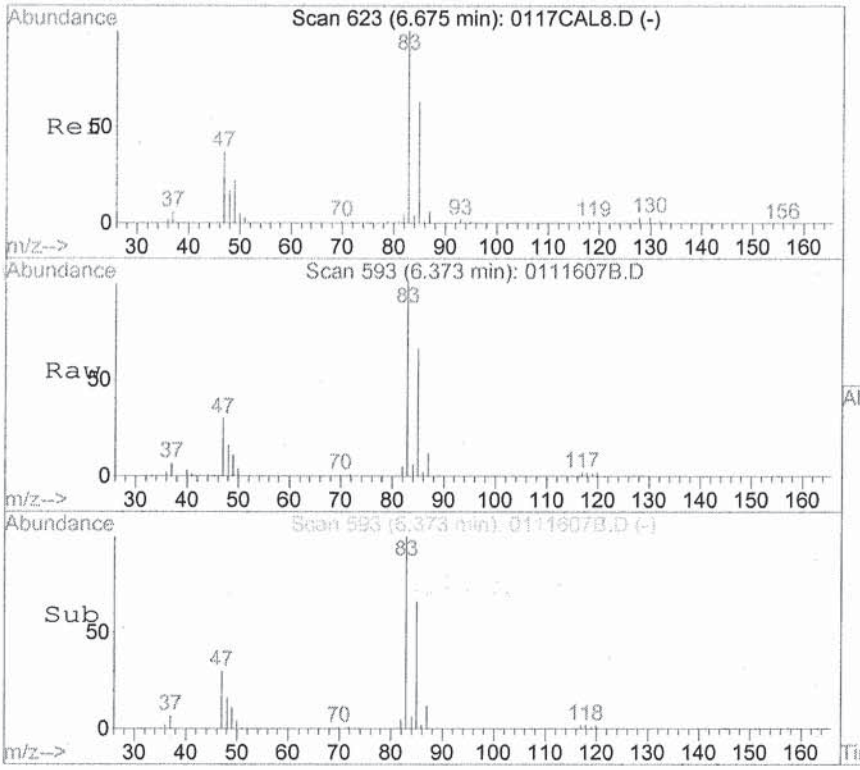


#19
Methylene chloride
Concen: 0.12 ug/L
RT: 4.31 min Scan# 384
Delta R.T. -0.00 min
Lab File: 0111607B.D
Acq: 4 Feb 2015 2:49 pm

Tgt Ion: 84 Resp: 1125

Ion	Ratio	Lower	Upper
84	100		
86	68.0	54.3	81.5
49	144.2	124.5	186.7

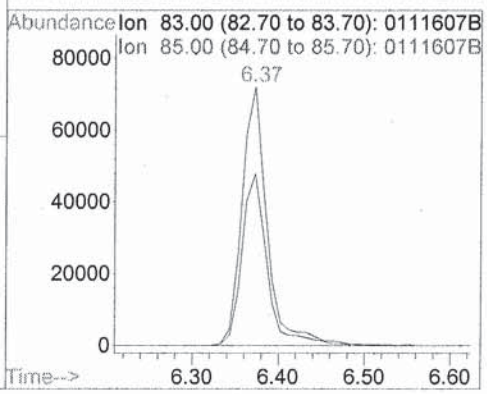


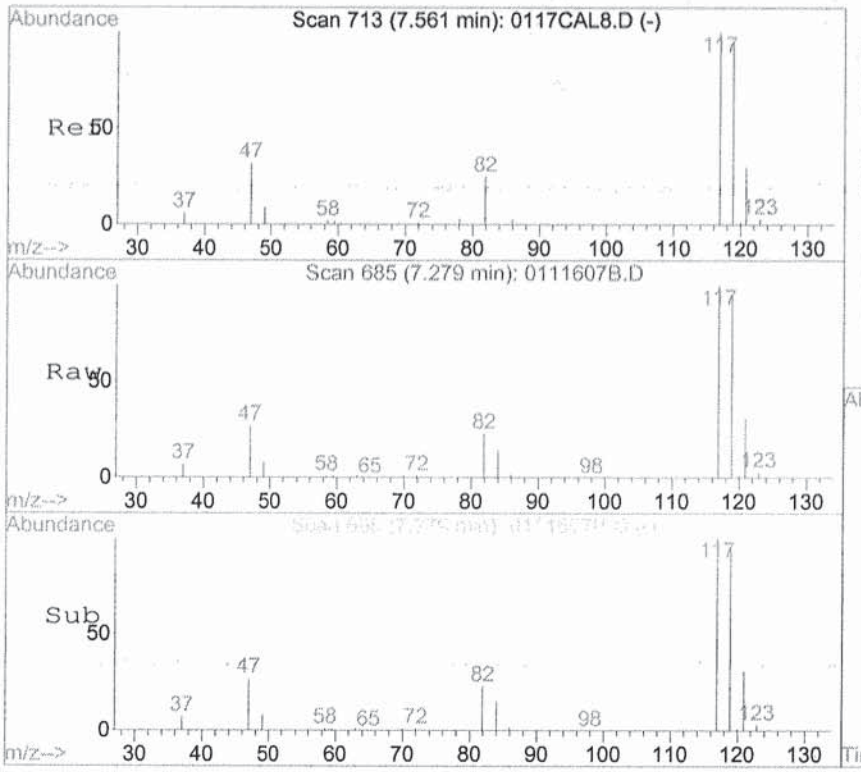


#35
Chloroform
Concen: 8.51 ug/L
RT: 6.37 min Scan# 593
Delta R.T. 0.01 min
Lab File: 0111607B.D
Acq: 4 Feb 2015 2:49 pm

Tgt Ion: 83 Resp: 146697

Ion	Ratio	Lower	Upper
83	100		
85	66.9	51.3	76.9

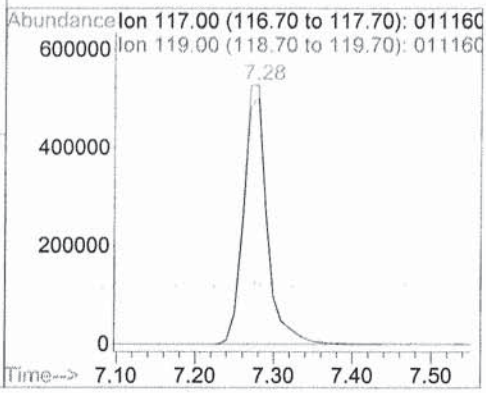


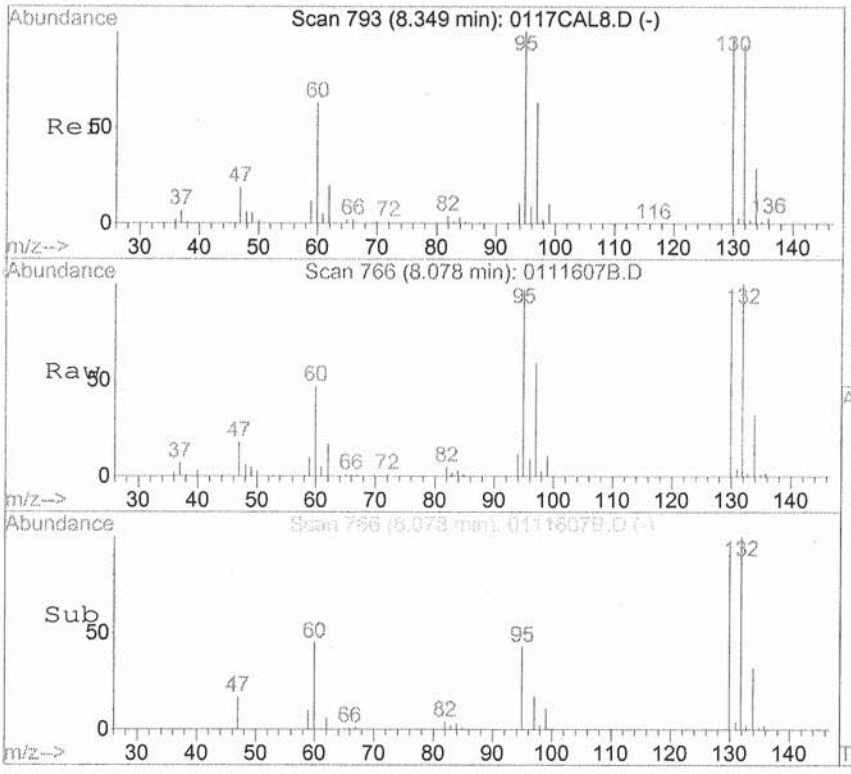


#46
Carbon tetrachloride
Concen: 77.19 ug/L
RT: 7.28 min Scan# 685
Delta R.T. 0.01 min
Lab File: 0111607B.D
Acq: 4 Feb 2015 2:49 pm

Tgt Ion:117 Resp: 1115313

Ion	Ratio	Lower	Upper
117	100		
119	94.2	75.4	113.0

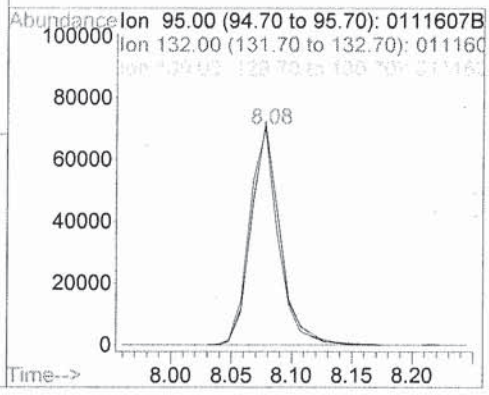


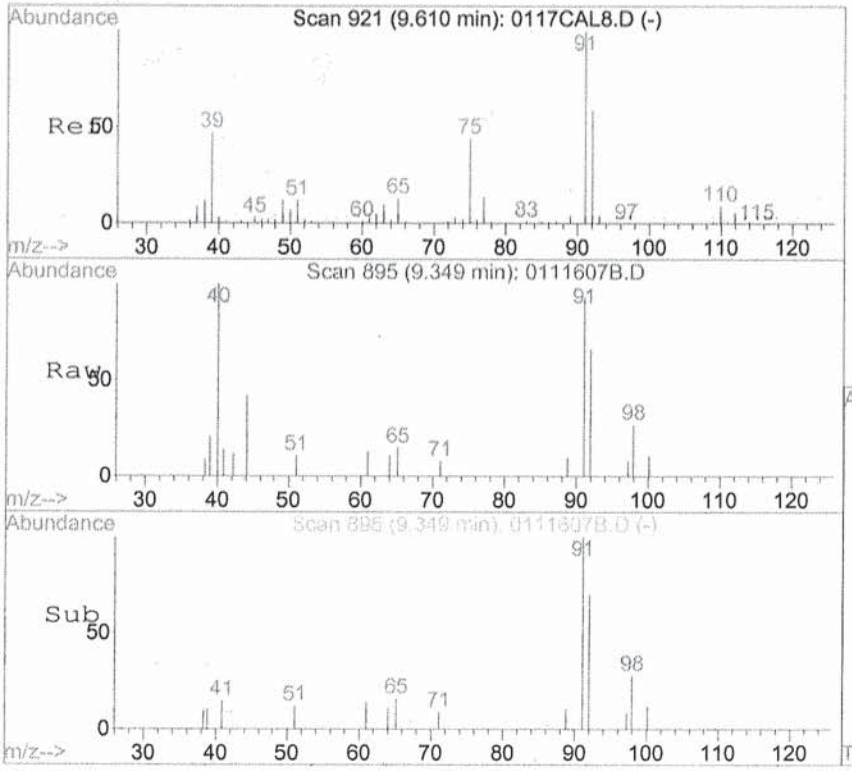


#49
Trichloroethene
Concen: 12.72 ug/L
RT: 8.08 min Scan# 766
Delta R.T. 0.01 min
Lab File: 0111607B.D
Acq: 4 Feb 2015 2:49 pm

Tgt Ion: 95 Resp: 117103

Ion	Ratio	Lower	Upper
95	100		
132	101.4	78.6	118.0
130	101.7	79.6	119.4

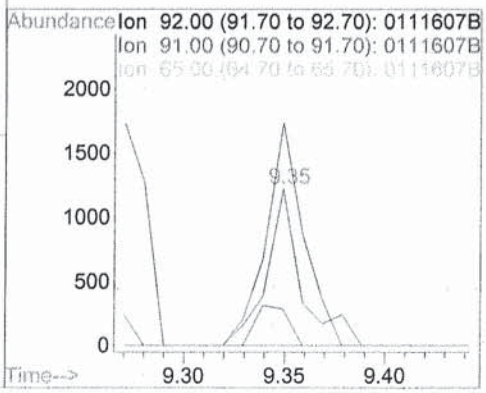


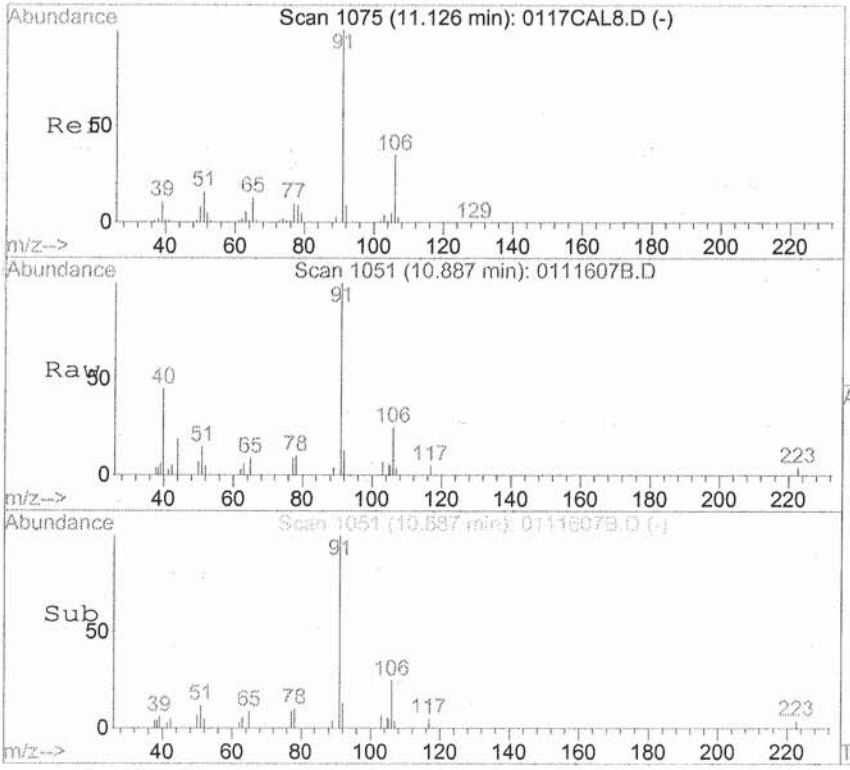


#63
Toluene
Concen: 0.09 ug/L
RT: 9.35 min Scan# 895
Delta R.T. -0.00 min
Lab File: 0111607B.D
Acq: 4 Feb 2015 2:49 pm

Tgt Ion: 92 Resp: 1482

Ion	Ratio	Lower	Upper
92	100		
91	153.1	133.7	200.5
65	23.8	18.1	27.1

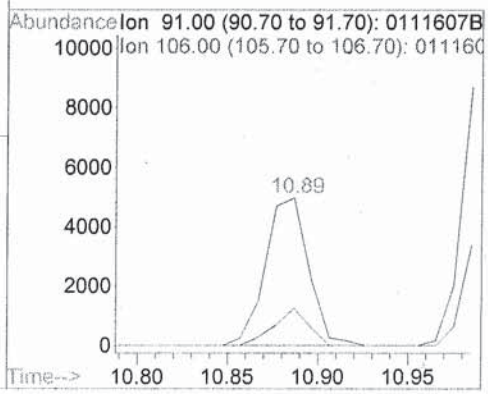


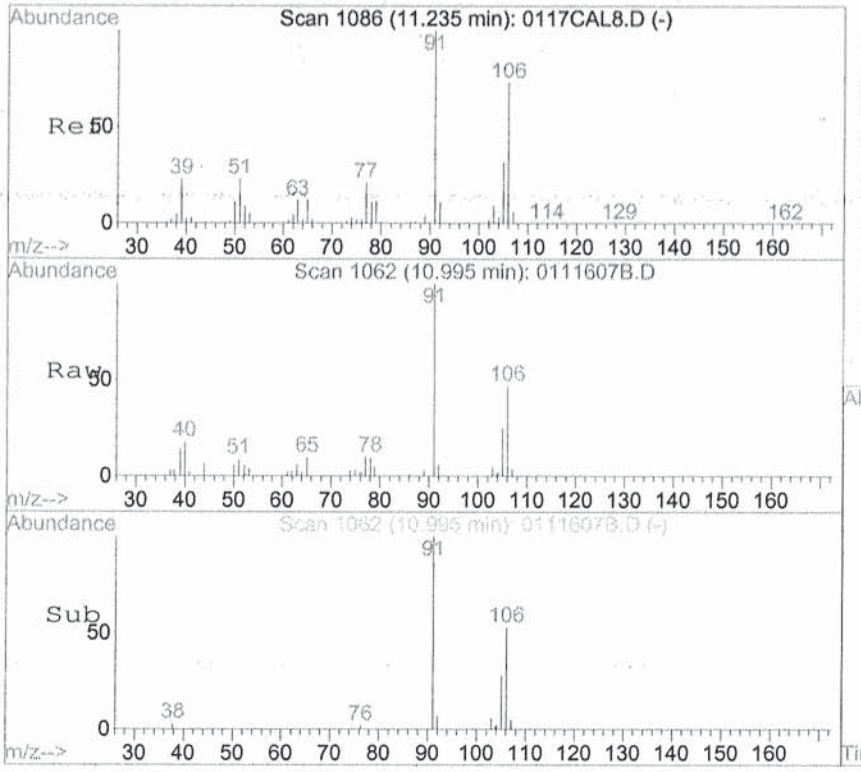


#74
Ethylbenzene
Concen: 0.25 ug/L
RT: 10.89 min Scan# 1051
Delta R.T. -0.00 min
Lab File: 0111607B.D
Acq: 4 Feb 2015 2:49 pm

Tgt Ion: 91 Resp: 8278

Ion	Ratio	Lower	Upper
91	100		
106	20.0	21.8	32.6#

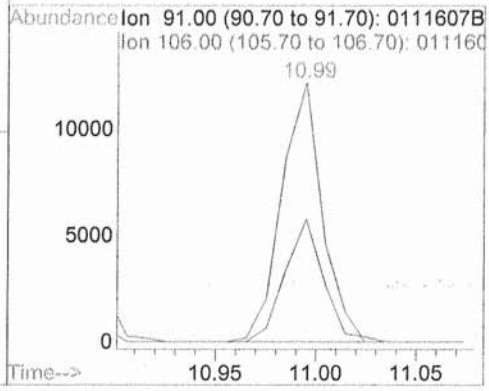


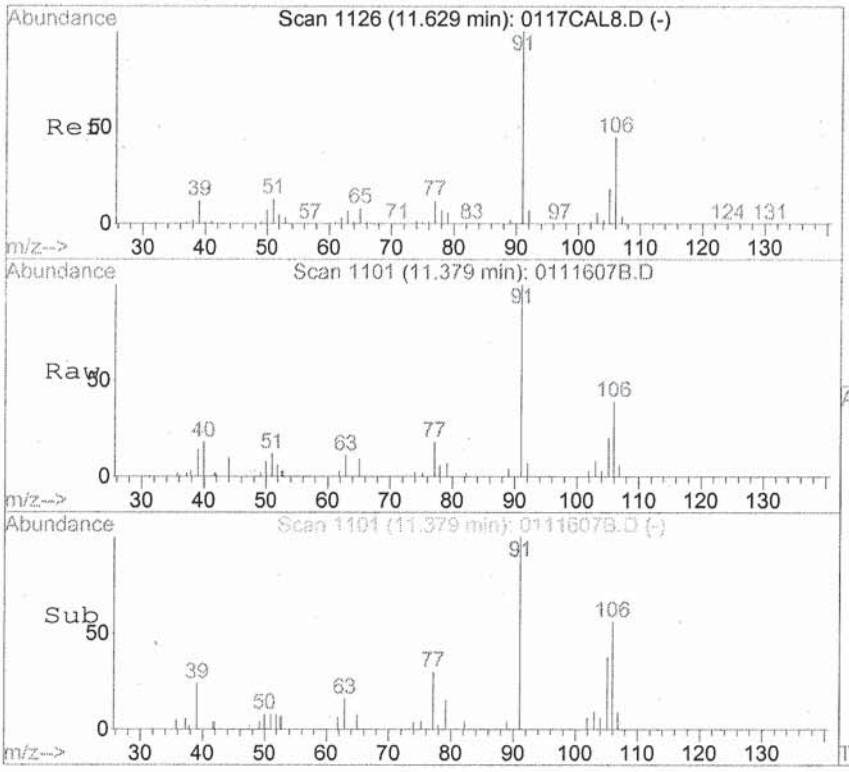


#75
m,p-Xylene
Concen: 0.70 ug/L
RT: 10.99 min Scan# 1062
Delta R.T. -0.00 min
Lab File: 0111607B.D
Acq: 4 Feb 2015 2:49 pm

Tgt Ion: 91 Resp: 17199

Ion	Ratio	Lower	Upper
91	100		
106	44.9	32.2	48.2

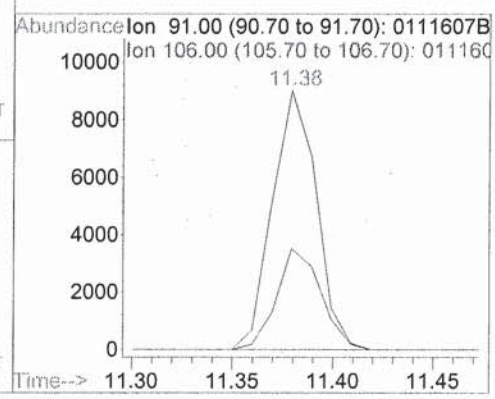




#77
o-Xylene
Concen: 0.55 ug/L
RT: 11.38 min Scan# 1101
Delta R.T. -0.00 min
Lab File: 0111607B.D
Acq: 4 Feb 2015 2:49 pm

Tgt Ion: 91 Resp: 13741

Ion	Ratio	Lower	Upper
91	100		
106	39.3	32.0	48.0



Quantitation Report (QT Reviewed)

Data File : D:\DATA\020415V6\0111605M.D Vial: 21
Acq On : 4 Feb 2015 4:39 pm Operator:
Sample : 5B04008-MS1 C/F/G Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 6 11:12 2015 Quant Results File: 020215W6.RES

02/09/15

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.58	96	790273	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.69	82	339343	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.08	152	322245	30.00	ug/L	-0.01
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	325062	30.52	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 101.73%			
42) 1,2-Dichloroethane-d4	7.05	102	52507	28.10	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 93.67%			
61) Toluene-d8	9.27	98	754063	30.12	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 100.40%			
82) Bromofluorobenzene	11.89	95	342583	31.54	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 105.13%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.79	85	501852	45.5436	ug/L	98
3) Chloromethane	1.99	50	164838	36.1307	ug/L	100
4) Vinyl chloride	2.13	62	134139	41.5386	ug/L	99
5) Bromomethane	2.52	94	69941	21.0300	ug/L	100
6) Chloroethane	2.64	64	103435	42.5979	ug/L	94
7) Trichlorofluoromethane	3.09	101	676669	52.8275	ug/L	100
8) Acrolein	3.28	56	98310	220.4277	ug/L	96
9) Acetone	3.39	43	167835	75.9110	ug/L	96
10) Acetonitrile	3.45	41	161071	281.1279	ug/L #	73
11) Ethyl Ether	3.49	59	128805	40.3783	ug/L	96
12) 1,1-Dichloroethene	3.81	96	323089	45.2088	ug/L	98
13) Trichlorotrifluoroethane	3.89	101	374135	46.0434	ug/L	97
14) Iodomethane	4.01	142	476229	25.6435	ug/L	97
15) t-Butyl Alcohol	3.97	59	90130	119.5711	ug/L #	89
16) Methyl Acetate	4.18	43	230589	36.7269	ug/L	97
17) Acrylonitrile	4.19	53	586746	216.9616	ug/L	99
18) Allyl chloride	4.27	76	160704	47.1624	ug/L	94
19) Methylene chloride	4.32	84	413319	47.1969	ug/L	94
20) Carbon disulfide	4.36	76	1218716	46.1136	ug/L	100
21) trans-1,2-dichloroethene	5.01	96	353239	48.5456	ug/L	95
22) MTBE	5.01	73	911252	46.1980	ug/L	97
23) 1,1-Dichloroethane	5.38	63	644742	45.6009	ug/L	98
24) Vinyl acetate	5.47	43	1472455	84.0773	ug/L	97
25) Propionitrile	5.57	54	386013	403.7374	ug/L	92
26) Hexane	5.60	57	188192	36.1652	ug/L	93
27) Chloroprene	5.66	53	639055	45.5483	ug/L	98
28) Di-isopropyl ether	5.78	45	1234360	41.3453	ug/L	95
29) 2-Butanone	5.84	43	350154	79.6567	ug/L	98
30) Methacrylonitrile	6.02	41	1985515	407.5759	ug/L	90
31) cis-1,2-Dichloroethene	6.11	96	404642	47.6536	ug/L	96
32) Ethyl Acetate	6.24	43	543966	45.1455	ug/L	98
33) 2,2-Dichloropropane	6.22	77	549272	48.1003	ug/L	100
34) ETBE	6.25	59	1091732	44.6991	ug/L	94
35) Chloroform	6.37	83	939011	58.2174	ug/L	99
36) Bromochloromethane	6.40	128	268029	54.0617	ug/L	95
37) Isobutyl alcohol	6.47	42	75404	493.6469	ug/L	90
39) Tetrahydrofuran	6.57	72	32173	45.2603	ug/L	82
40) tert-Amyl alcohol	6.76	59	75151	138.0534	ug/L	94
41) 1,1,1-Trichloroethane	6.93	97	713889	51.8638	ug/L	98

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

Data File : D:\DATA\020415V6\0111605M.D Vial: 21
Acq On : 4 Feb 2015 4:39 pm Operator:
Sample : 5B04008-MS1 C/F/G Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 6 11:12 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloroethane	7.14	62	758650	54.3477	ug/L		100
44)	1,1-Dichloropropene	7.15	75	509375	48.5064	ug/L		98
45)	Cyclohexane	7.20	56	391720	39.1237	ug/L		92
46)	Carbon tetrachloride	7.27	117	1718267	119.1168	ug/L		99
47)	Benzene	7.30	78	1318776	49.6173	ug/L		98
48)	tert- Amyl Methyl Ether	7.51	73	960902	49.9192	ug/L		98
49)	Trichloroethene	8.07	95	538442	62.4959	ug/L		97
50)	1,2-Dichloropropane	8.12	63	364062	49.1256	ug/L		98
51)	Dibromomethane	8.23	93	379734	53.6771	ug/L		98
52)	Methyl methacrylate	8.27	41	347435	46.1912	ug/L		98
53)	1,4-Dioxane	8.29	88	67227	885.1254	ug/L		97
54)	Bromodichloromethane	8.30	83	621010	54.7931	ug/L		99
55)	tert- Amyl Ethyl Ether	8.40	59	917881	45.5113	ug/L		96
56)	Methyl cyclohexane	8.45	83	329408	43.7149	ug/L		94
57)	2-Chloroethyl vinyl ether	8.72	63	491	0.1146	ug/L	#	44
58)	4-Methyl-2-pentanone	8.81	43	708758	91.1179	ug/L		97
59)	cis-1,3-Dichloropropene	8.88	75	610669	51.2303	ug/L		100
62)	trans-1,3-Dichloropropene	9.35	75	584141	51.8717	ug/L		98
63)	Toluene	9.34	92	740364	49.3502	ug/L		100
64)	1,1,2-Trichloroethane	9.50	83	283698	49.9349	ug/L		100
65)	Ethyl methacrylate	9.55	69	380125	49.5460	ug/L		98
66)	2-Hexanone	9.66	43	466258	88.6995	ug/L		98
67)	1,3-Dichloropropane	9.72	76	534682	48.8465	ug/L		99
68)	Dibromochloromethane	9.96	129	561153	58.9806	ug/L		98
69)	Tetrachloroethene	10.08	166	442329	51.3747	ug/L		100
70)	1,2-Dibromoethane	10.18	107	447472	52.2593	ug/L		100
71)	1-Chlorohexane	10.71	91	345944	44.4781	ug/L		98
72)	Chlorobenzene	10.73	112	931857	50.6898	ug/L		99
73)	1,1,1,2-Tetrachloroethane	10.77	131	435342	55.8725	ug/L		99
74)	Ethylbenzene	10.88	91	1531602	50.3696	ug/L		98
75)	m,p-Xylene	10.99	91	2277815	101.0106	ug/L		96
76)	Styrene	11.35	104	941428	51.5331	ug/L		98
77)	o-Xylene	11.38	91	1173723	50.5661	ug/L		98
78)	Bromoform	11.45	173	393529	51.4176	ug/L		100
79)	Cyclohexanone	11.50	55	20276	39.4069	ug/L		96
80)	Isopropylbenzene	11.78	105	1332283	50.4889	ug/L		98
81)	1,2,3-Trichloropropane	11.83	110	142800	52.1565	ug/L	#	70
84)	cis-1,4-Dichloro-2-butene	11.54	53	163859	34.7453	ug/L		99
85)	1,1,2,2-Tetrachloroethane	11.71	83	420968	47.3758	ug/L		100
86)	trans-1,4-Dichloro-2-buten	11.86	53	155737	36.9374	ug/L	#	10
87)	Bromobenzene	12.04	156	469827	50.8328	ug/L		97
88)	n-Propylbenzene	12.18	91	1470217	47.1254	ug/L		97
89)	2-Chlorotoluene	12.26	91	1002096	48.6040	ug/L		97
90)	4-Chlorotoluene	12.33	91	1206500	48.8984	ug/L		99
91)	1,3,5-Trimethylbenzene	12.36	105	1092356	49.0885	ug/L		99
92)	tert-Butylbenzene	12.70	119	911525	48.2516	ug/L		100
93)	1,2,4-Trimethylbenzene	12.73	105	1136944	47.6252	ug/L		98
94)	sec-Butylbenzene	12.93	105	1126579	47.5823	ug/L		99
95)	1,3-Dichlorobenzene	13.02	146	741636	48.9718	ug/L		98
96)	1,4-Dichlorobenzene	13.11	146	752912	49.2528	ug/L		100
97)	p-Isopropyltoluene	13.07	119	918211	48.0508	ug/L		99
98)	1,2-Dichlorobenzene	13.42	146	737166	50.5222	ug/L		100
99)	n-Butylbenzene	13.47	91	876095	48.3884	ug/L		99

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

Data File : D:\DATA\020415V6\0111605M.D Vial: 21
Acq On : 4 Feb 2015 4:39 pm Operator:
Sample : 5B04008-MS1 C/F/G Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 6 11:12 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
100)	1,2-Dibromo-3-chloropropan	14.06	157	99625	47.6333	ug/L	97
101)	1,3,5-Trichlorobenzene	14.59	180	521803	48.6896	ug/L	99
102)	1,2,4-Trichlorobenzene	15.14	180	476405	47.8906	ug/L	99
103)	Naphthalene	15.28	128	1012676	45.2515	ug/L	100
104)	Hexachlorobutadiene	15.41	225	217709	46.9374	ug/L	98
105)	1,2,3-Trichlorobenzene	15.57	180	420911	49.4565	ug/L	97
106)	2-Methylnaphthalene	16.43	142	86956	9.4323	ug/L	94
107)	1-Methylnaphthalene	16.64	142	70065	9.4903	ug/L	96

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

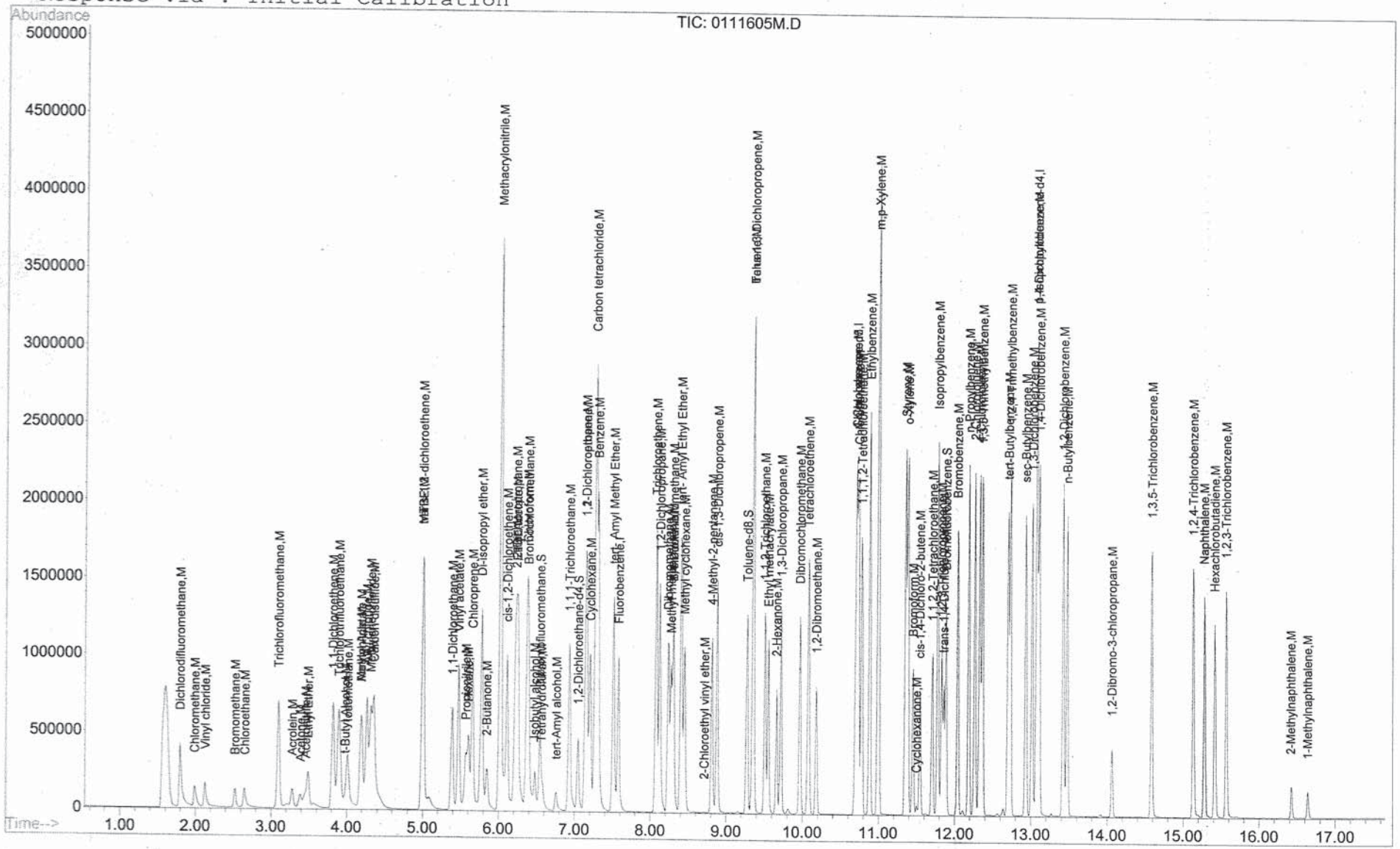
Quantitation Report

Data File : D:\DATA\020415V6\0111605M.D
Acq On : 4 Feb 2015 4:39 pm
Sample : 5B04008-MS1 C/F/G
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 11:12 2015

Vial: 21
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration



0111605M.D 020215W6.M Fri Feb 06 11:13:15 2015 Page 4

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020415V6\0111605S.D Vial: 22
Acq On : 4 Feb 2015 5:07 pm Operator:
Sample : 5B04008-MSD1 C/F/G Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00

02/09/15

MS Integration Params: RTEINT.P
Quant Time: Feb 6 11:13 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	7.57	96	796497	30.00	ug/L	0.00
60) Chlorobenzene-d5	10.69	82	340983	30.00	ug/L	0.00
83) 1,4-Dichlorobenzene-d4	13.07	152	318650	30.00	ug/L	-0.01
System Monitoring Compounds						
38) Dibromofluoromethane	6.54	111	325923	30.36	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 101.20%			
42) 1,2-Dichloroethane-d4	7.04	102	52719	27.99	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 93.30%			
61) Toluene-d8	9.27	98	757987	30.13	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 100.43%			
82) Bromofluorobenzene	11.88	95	344463	31.56	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 105.20%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.80	85	579433	51.7763	ug/L	100
3) Chloromethane	2.00	50	202118	43.9558	ug/L	100
4) Vinyl chloride	2.12	62	167036	51.3215	ug/L	97
5) Bromomethane	2.52	94	127927	36.7105	ug/L	100
6) Chloroethane	2.65	64	121439	49.6217	ug/L	100
7) Trichlorofluoromethane	3.10	101	730015	56.5469	ug/L	99
8) Acrolein	3.28	56	105903	235.5970	ug/L	99
9) Acetone	3.39	43	198644	89.1437	ug/L	96
10) Acetonitrile	3.46	41	175823	304.4775	ug/L #	65
11) Ethyl Ether	3.49	59	149904	46.6252	ug/L	98
12) 1,1-Dichloroethene	3.82	96	347853	48.2935	ug/L	97
13) Trichlorotrifluoroethane	3.90	101	393358	48.0308	ug/L	97
14) Iodomethane	4.02	142	658005	35.1548	ug/L	97
15) t-Butyl Alcohol	3.98	59	129281	170.1706	ug/L	98
16) Methyl Acetate	4.17	43	262344	41.4581	ug/L	99
17) Acrylonitrile	4.19	53	639503	234.6218	ug/L	97
18) Allyl chloride	4.26	76	165597	48.2186	ug/L	94
19) Methylene chloride	4.31	84	420575	47.6502	ug/L	98
20) Carbon disulfide	4.35	76	1259341	47.2784	ug/L	100
21) trans-1,2-dichloroethene	5.00	96	371836	50.7020	ug/L	96
22) MTBE	5.00	73	1000833	50.3430	ug/L	98
23) 1,1-Dichloroethane	5.39	63	714101	50.1118	ug/L	98
24) Vinyl acetate	5.48	43	1642888	92.3865	ug/L	98
25) Propionitrile	5.56	54	411611	427.1467	ug/L	93
26) Hexane	5.60	57	212068	40.4350	ug/L	97
27) Chloroprene	5.65	53	684366	48.3967	ug/L	97
28) Di-isopropyl ether	5.77	45	1325771	44.0602	ug/L	96
29) 2-Butanone	5.85	43	393118	88.4369	ug/L	98
30) Methacrylonitrile	6.02	41	2174619	442.9059	ug/L	93
31) cis-1,2-Dichloroethene	6.11	96	415918	48.5988	ug/L	97
32) Ethyl Acetate	6.23	43	596265	49.0993	ug/L	99
33) 2,2-Dichloropropane	6.21	77	582861	50.6429	ug/L	100
34) ETBE	6.24	59	1175740	47.7625	ug/L	95
35) Chloroform	6.37	83	979855	60.2749	ug/L	100
36) Bromochloromethane	6.39	128	272450	54.5240	ug/L	95
37) Isobutyl alcohol	6.48	42	111479	724.1159	ug/L	96
39) Tetrahydrofuran	6.58	72	32933	45.9674	ug/L	96
40) tert-Amyl alcohol	6.76	59	100409	183.0113	ug/L	94
41) 1,1,1-Trichloroethane	6.93	97	754615	54.3941	ug/L	100

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

Data File : D:\DATA\020415V6\0111605S.D Vial: 22
Acq On : 4 Feb 2015 5:07 pm Operator:
Sample : 5B04008-MSD1 C/F/G Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 6 11:13 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	1,2-Dichloroethane	7.14	62	807153	57.3705	ug/L	100
44)	1,1-Dichloropropene	7.15	75	550001	51.9659	ug/L	99
45)	Cyclohexane	7.20	56	415809	41.2051	ug/L	92
46)	Carbon tetrachloride	7.27	117	1853241	126.1536	ug/L	100
47)	Benzene	7.31	78	1346044	50.2475	ug/L	99
48)	tert- Amyl Methyl Ether	7.51	73	1035647	53.3818	ug/L	97
49)	Trichloroethene	8.08	95	576050	66.3385	ug/L	98
50)	1,2-Dichloropropane	8.13	63	379515	50.8106	ug/L	97
51)	Dibromomethane	8.24	93	393160	55.1407	ug/L	100
52)	Methyl methacrylate	8.26	41	387594	51.1276	ug/L	98
53)	1,4-Dioxane	8.28	88	75660	988.3720	ug/L	98
54)	Bromodichloromethane	8.30	83	654503	57.2970	ug/L	100
55)	tert- Amyl Ethyl Ether	8.40	59	990637	48.7350	ug/L	94
56)	Methyl cyclohexane	8.44	83	356130	46.8918	ug/L	97
57)	2-Chloroethyl vinyl ether	8.72	63	785	0.1817	ug/L #	44
58)	4-Methyl-2-pentanone	8.81	43	792104	101.0371	ug/L	98
59)	cis-1,3-Dichloropropene	8.88	75	643278	53.5442	ug/L	98
62)	trans-1,3-Dichloropropene	9.35	75	624738	55.2099	ug/L	99
63)	Toluene	9.35	92	776445	51.5063	ug/L	99
64)	1,1,2-Trichloroethane	9.51	83	297934	52.1884	ug/L	99
65)	Ethyl methacrylate	9.55	69	421809	54.7147	ug/L	98
66)	2-Hexanone	9.65	43	523462	99.1028	ug/L	99
67)	1,3-Dichloropropane	9.71	76	563979	51.2751	ug/L	99
68)	Dibromochloromethane	9.97	129	605866	63.3740	ug/L	99
69)	Tetrachloroethene	10.08	166	468538	54.1570	ug/L	99
70)	1,2-Dibromoethane	10.18	107	478935	55.6648	ug/L	99
71)	1-Chlorohexane	10.71	91	358687	45.8947	ug/L	99
72)	Chlorobenzene	10.73	112	968485	52.4288	ug/L	98
73)	1,1,1,2-Tetrachloroethane	10.78	131	459768	58.7235	ug/L	98
74)	Ethylbenzene	10.88	91	1596563	52.2535	ug/L	99
75)	m,p-Xylene	10.99	91	2384131	105.2167	ug/L	97
76)	Styrene	11.35	104	982418	53.5182	ug/L	99
77)	o-Xylene	11.38	91	1205780	51.6973	ug/L	98
78)	Bromoform	11.45	173	435915	56.1223	ug/L	99
79)	Cyclohexanone	11.50	55	25143	48.6310	ug/L	99
80)	Isopropylbenzene	11.77	105	1385847	52.2662	ug/L	98
81)	1,2,3-Trichloropropane	11.82	110	153533	55.8069	ug/L	78
84)	cis-1,4-Dichloro-2-butene	11.55	53	182081	39.0447	ug/L	98
85)	1,1,2,2-Tetrachloroethane	11.70	83	441391	50.2346	ug/L	99
86)	trans-1,4-Dichloro-2-buten	11.85	53	173143	41.5290	ug/L	85
87)	Bromobenzene	12.04	156	490599	53.6791	ug/L	97
88)	n-Propylbenzene	12.19	91	1546711	50.1366	ug/L	98
89)	2-Chlorotoluene	12.27	91	1037191	50.8738	ug/L	99
90)	4-Chlorotoluene	12.33	91	1252813	51.3482	ug/L	99
91)	1,3,5-Trimethylbenzene	12.36	105	1131721	51.4312	ug/L	99
92)	tert-Butylbenzene	12.70	119	949800	50.8449	ug/L	100
93)	1,2,4-Trimethylbenzene	12.73	105	1187972	50.3241	ug/L	99
94)	sec-Butylbenzene	12.94	105	1178786	50.3490	ug/L	99
95)	1,3-Dichlorobenzene	13.02	146	762506	50.9179	ug/L	99
96)	1,4-Dichlorobenzene	13.10	146	778304	51.4883	ug/L	99
97)	p-Isopropyltoluene	13.07	119	957486	50.6714	ug/L	99
98)	1,2-Dichlorobenzene	13.42	146	767478	53.1931	ug/L	99
99)	n-Butylbenzene	13.47	91	899841	50.2607	ug/L	99

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

Quantitation Report (QT Reviewed)

Data File : D:\DATA\020415V6\0111605S.D Vial: 22
Acq On : 4 Feb 2015 5:07 pm Operator:
Sample : 5B04008-MSD1 C/F/G Inst : NSH-VOA6
Misc : 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 6 11:13 2015 Quant Results File: 020215W6.RES

Quant Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration
DataAcq Meth : VW6SUR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
100)	1,2-Dibromo-3-chloropropan	14.06	157	109079	52.2509	ug/L	98
101)	1,3,5-Trichlorobenzene	14.58	180	537481	50.7183	ug/L	99
102)	1,2,4-Trichlorobenzene	15.13	180	503698	51.2055	ug/L	99
103)	Naphthalene	15.28	128	1109381	49.8606	ug/L	100
104)	Hexachlorobutadiene	15.42	225	250926	54.7092	ug/L	100
105)	1,2,3-Trichlorobenzene	15.57	180	458549	54.4868	ug/L	99
106)	2-Methylnaphthalene	16.43	142	111919	12.2770	ug/L	96
107)	1-Methylnaphthalene	16.64	142	98475	13.4889	ug/L	100

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

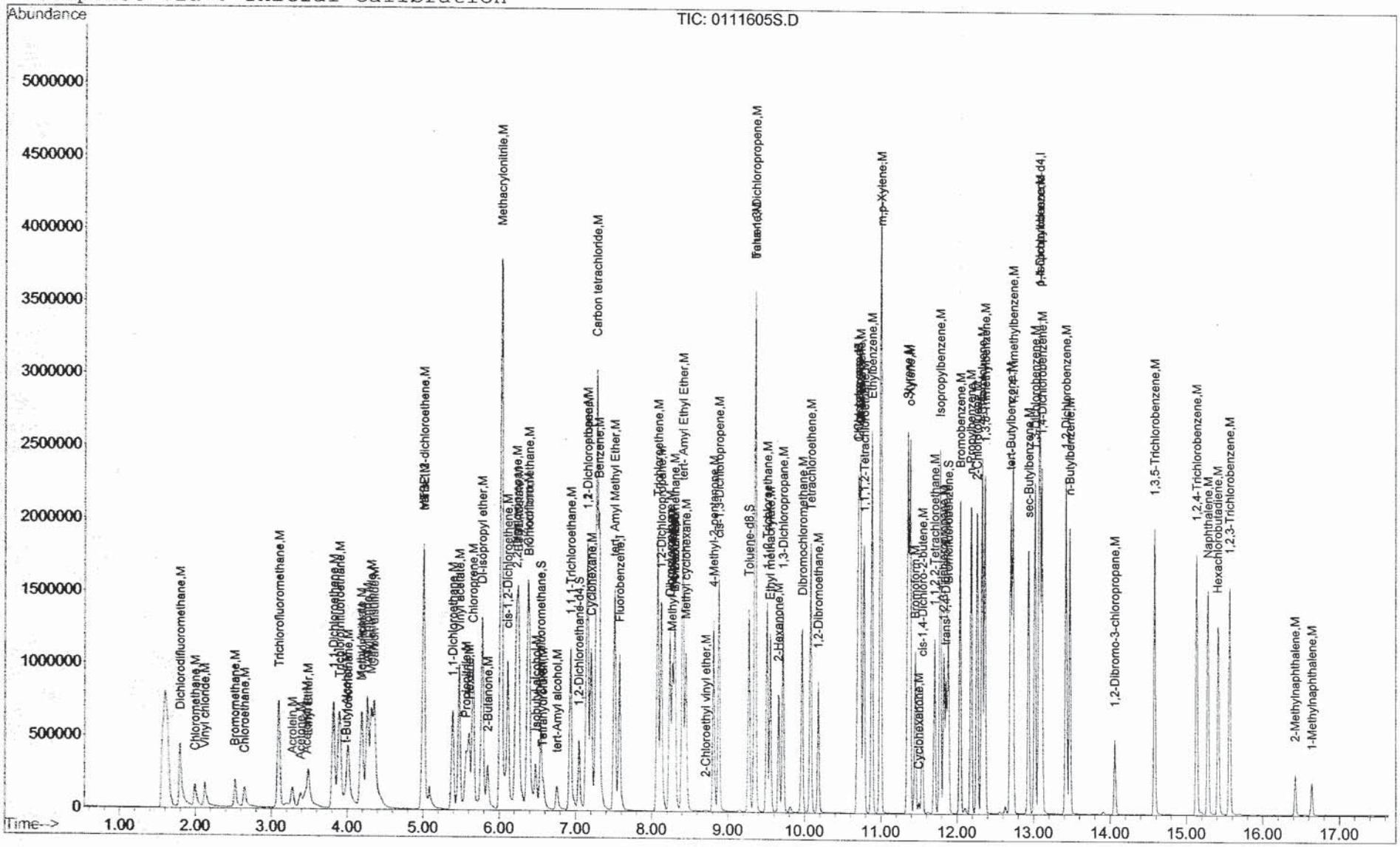
Quantitation Report

Data File : D:\DATA\020415V6\0111605S.D
Acq On : 4 Feb 2015 5:07 pm
Sample : 5B04008-MSD1 C/F/G
Misc : 1
MS Integration Params: RTEINT.P
Quant Time: Feb 6 11:13 2015

Vial: 22
Operator:
Inst : NSH-VOA6
Multiplr: 1.00

Quant Results File: 020215W6.RES

Method : C:\HPCHEM\1\METHODS\020215W6.M (RTE Integrator)
Title : 8260B
Last Update : Tue Feb 03 08:10:25 2015
Response via : Initial Calibration



PREPARATION BENCH SHEET

5B04008

Empirical Laboratories, LLC

Printed: 2/12/2015 11:21:28AM

Instrument: VOA6

Matrix: Water **Prepared using: MS - 5030B** **Surrogate used: 14J0018**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
1501116-01	A	VOC_8260B_REG	02/04/2015	5	5				1	2	;;TB
1501116-02	B	VOC_8260B_REG	02/04/2015	5	5				1	2	;;2X-LF
1501116-03	B	VOC_8260B_REG	02/04/2015	5	5				1	2	;;
1501116-04	B	VOC_8260B_REG	02/04/2015	5	5				1	2	;;
1501116-05	B	VOC_8260B_REG	02/04/2015	5	5				1	2	MS/MSD;MS/MSD;
1501116-06	A	VOC_8260B_REG	02/04/2015	5	5				1	2	;;RB
1501116-07	B	VOC_8260B_REG	02/04/2015	5	5				1	2	;;
1501117-01	B	VOC_8260B_REG	02/04/2015	5	5				1	2	MS/MSD;see versions;
1501117-02	B	VOC_8260B_REG	02/04/2015	5	5				1	2	;see versions;2X-F
1501117-03	B	VOC_8260B_REG	02/04/2015	5	5				1	2	;see versions;DUP-2X-F
1501117-06	B	VOC_8260B_REG	02/04/2015	5	5				1	2	;see versions;2X-F
1501117-07	A	VOC_8260B_REG	02/04/2015	5	5				1	2	;see versions;EB
1501117-08	A	VOC_8260B_REG	02/04/2015	5	5				1	2	;see versions;TB
5B04008-BLK1		QC	02/04/2015	5	5				1	NA	
5B04008-BS1		QC	02/04/2015	5	5	15B0002		2.5	1	NA	
5B04008-MS1		QC	02/04/2015	5	5	15B0002	1501116-05	2.5	1	NA	
5B04008-MS2		QC	02/04/2015	5	5	15B0002	1501117-01	2.5	1	NA	

PREPARATION BENCH SHEET

5B04008

Empirical Laboratories, LLC

Printed: 2/12/2015 11:21:28AM

Instrument: VOA6

Matrix: Water **Prepared using: MS - 5030B** **Surrogate used: 14J0018**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
5B04008-MSD1		QC	02/04/2015	5	5	15B0002	1501116-05	2.5	1	NA	
5B04008-MSD2		QC	02/04/2015	5	5	15B0002	1501117-01	2.5	1	NA	

Reagents Used:

Standard	Description
14F0692	Anti-foam-GE_AF72
15A0032	ph paper 1-12

Data for RSK 175
Forms

Sample Extraction Data

Prep Method: RSK175-RSK175

Lab Number [Field ID]	Batch	Nominal Initial/Final	Initial [mL]	Final [mL]	Dilution	% Solids	Notes	Date
1501116-02 [49MW02]	5B04002	15.00/15.00	15.0	15.0	1.00			02/04/15
1501116-03 [50MW02]	5B04002	15.00/15.00	15.0	15.0	1.00			02/04/15
1501116-04 [49TM01]	5B04002	15.00/15.00	15.0	15.0	1.00			02/04/15
1501116-05 [48MW3]	5B04002	15.00/15.00	15.0	15.0	1.00			02/04/15
1501116-06 [RB012714]	5B04002	15.00/15.00	15.0	15.0	1.00			02/04/15
1501116-07 [49TM02]	5B04002	15.00/15.00	15.0	15.0	1.00			02/04/15

ANALYSIS DATA SHEET

49MW02

Laboratory:	Empirical Laboratories, LLC			SDG:	1501116
Client:	CB&I			Project:	Radford AAP
Matrix:	Water	Laboratory ID:	1501116-02	File ID:	016F1601.D\Report.TXT
Sampled:	01/27/15 10:55	Prepared:	02/04/15 07:09	Analyzed:	02/04/15 14:57
Solids:		Preparation:	RSK175	Dilution:	1
Batch:	5B04002	Sequence:	5B03704	Calibration:	4335002
Instrument:	GL-GCVOA				

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane	**1.54**	1.00	2.00	4.00	J
74-84-0	Ethane		1.00	2.00	4.00	U
74-85-1	Ethene	**1.40**	1.00	2.00	4.00	J

Total Target Analytes Reported 3 Project Analytes: 3

ANALYSIS DATA SHEET

50MW02

Laboratory:	Empirical Laboratories, LLC			SDG:	1501116
Client:	CB&I			Project:	Radford AAP
Matrix:	Water	Laboratory ID:	1501116-03	File ID:	018F1801.D\Report.TXT
Sampled:	01/27/15 12:55	Prepared:	02/04/15 07:09	Analyzed:	02/04/15 15:24
Solids:		Preparation:	RSK175	Dilution:	1
Batch:	5B04002	Sequence:	5B03704	Calibration:	4335002
Instrument:	GL-GCVOA				

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane		1.00	2.00	4.00	U
74-84-0	Ethane		1.00	2.00	4.00	U
74-85-1	Ethene		1.00	2.00	4.00	U

Total Target Analytes Reported 3 Project Analytes: 3

ANALYSIS DATA SHEET

49TM01

Laboratory: Empirical Laboratories, LLC SDG: 1501116

Client: CB&I Project: Radford AAP

Matrix: Water Laboratory ID: 1501116-04 File ID: 019F1901.D\Report.TXT

Sampled: 01/27/15 12:55 Prepared: 02/04/15 07:09 Analyzed: 02/04/15 15:38

Solids: Preparation: RSK175 Dilution: 1

Batch: 5B04002 Sequence: 5B03704 Calibration: 4335002 Instrument: GL-GCVOA

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane		1.00	2.00	4.00	U
74-84-0	Ethane		1.00	2.00	4.00	U
74-85-1	Ethene		1.00	2.00	4.00	U

Total Target Analytes Reported 3 Project Analytes: 3

ANALYSIS DATA SHEET

48MW3

Laboratory: Empirical Laboratories, LLC SDG: 1501116

Client: CB&I Project: Radford AAP

Matrix: Water Laboratory ID: 1501116-05 File ID: 020F2001.D\Report.TXT

Sampled: 01/27/15 14:35 Prepared: 02/04/15 07:09 Analyzed: 02/04/15 15:51

Solids: Preparation: RSK175 Dilution: 1

Batch: 5B04002 Sequence: 5B03704 Calibration: 4335002 Instrument: GL-GCVOA

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane		1.00	2.00	4.00	U
74-84-0	Ethane		1.00	2.00	4.00	U
74-85-1	Ethene		1.00	2.00	4.00	U

Total Target Analytes Reported 3 Project Analytes: 3

ANALYSIS DATA SHEET

RB012714

Laboratory:	Empirical Laboratories, LLC			SDG:	1501116
Client:	CB&I			Project:	Radford AAP
Matrix:	Water	Laboratory ID:	1501116-06	File ID:	023F2301.D\Report.TXT
Sampled:	01/27/15 15:15	Prepared:	02/04/15 07:09	Analyzed:	02/04/15 16:32
Solids:		Preparation:	RSK175	Dilution:	1
Batch:	5B04002	Sequence:	5B03704	Calibration:	4335002
Instrument:	GL-GCVOA				

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane		1.00	2.00	4.00	U
74-84-0	Ethane		1.00	2.00	4.00	U
74-85-1	Ethene		1.00	2.00	4.00	U

Total Target Analytes Reported 3 Project Analytes: 3

ANALYSIS DATA SHEET

49TM02

Laboratory: Empirical Laboratories, LLC SDG: 1501116

Client: CB&I Project: Radford AAP

Matrix: Water Laboratory ID: 1501116-07 File ID: 024F2401.D\Report.TXT

Sampled: 01/27/15 14:35 Prepared: 02/04/15 07:09 Analyzed: 02/04/15 16:46

Solids: Preparation: RSK175 Dilution: 1

Batch: 5B04002 Sequence: 5B03704 Calibration: 4335002 Instrument: GL-GCVOA

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane		1.00	2.00	4.00	U
74-84-0	Ethane		1.00	2.00	4.00	U
74-85-1	Ethene		1.00	2.00	4.00	U

Total Target Analytes Reported 3 Project Analytes: 3

LCS / LCS DUPLICATE RECOVERY

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501116
Client:	CB&I	Project:	Radford AAP
Matrix:	Water		
Batch:	5B04002	Laboratory ID:	5B04002-BS1
Preparation:	RSK175	Initial/Final:	15 mL / 15 mL

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	QC LIMITS REC.
Methane	253.4	257.4	102	80 - 120
Ethane	485.3	495.3	102	80 - 120
Ethene	520.6	567.0	109	80 - 120

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

RSK175

48MW3

Laboratory: Empirical Laboratories, LLC

Client: CB&I

Matrix: Water

Batch: 5B04002

% Solids:

SDG: 1501116

Project: Radford AAP

Source Sample Name: **1501116-05**

ANALYTE	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC.	Q	QC LIMITS REC.
Methane	253.4	ND	211.9	83.6		80 - 120
Ethane	485.3	ND	417.5	86.0		80 - 120
Ethene	520.6	ND	468.5	90.0		80 - 120

ANALYTE	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD	Q	QC LIMITS RPD	QC LIMITS REC.
Methane	253.4	213.1	84.1	0.561		30	80 - 120
Ethane	485.3	419.8	86.5	0.561		30	80 - 120
Ethene	520.6	462.0	88.8	1.40		30	80 - 120

PREPARATION BATCH SUMMARY

RSK175

Laboratory: Empirical Laboratories, LLC SDG: 1501116

Client: CB&I Project: Radford AAP

Batch: 5B04002 Batch Matrix: Water Preparation: RSK175

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
49MW02	1501116-02	02/04/15 07:09	15.00	15.00
50MW02	1501116-03	02/04/15 07:09	15.00	15.00
49TM01	1501116-04	02/04/15 07:09	15.00	15.00
48MW3	1501116-05	02/04/15 07:09	15.00	15.00
RB012714	1501116-06	02/04/15 07:09	15.00	15.00
49TM02	1501116-07	02/04/15 07:09	15.00	15.00
Blank	5B04002-BLK1	02/04/15 07:09	15.00	15.00
LCS	5B04002-BS1	02/04/15 07:09	15.00	15.00
48MW3	5B04002-MS2	02/04/15 07:09	15.00	15.00
48MW3	5B04002-MSD2	02/04/15 07:09	15.00	15.00

ANALYSIS DATA SHEET

Blank

Laboratory: Empirical Laboratories, LLC SDG: 1501116

Client: CB&I Project: Radford AAP

Matrix: Laboratory ID: 5B04002-BLK1 File ID: 003F0301.D\Report.TXT

Sampled: Prepared: Analyzed: 02/04/15 12:01

Solids: Preparation: RSK175 Dilution:

Batch: 5B04002 Sequence: 5B03704 Calibration: 4335002 Instrument: GL-GCVOA

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane		1.00	2.00	4.00	U
74-84-0	Ethane		1.00	2.00	4.00	U
74-85-1	Ethene		1.00	2.00	4.00	U

Total Target Analytes Reported: 3

ANALYSIS DATA SHEET

LCS

Laboratory: Empirical Laboratories, LLC SDG: 1501116

Client: CB&I Project: Radford AAP

Matrix: Laboratory ID: 5B04002-BS1 File ID: 004F0401.D\Report.TXT

Sampled: Prepared: Analyzed: 02/04/15 12:14

Solids: Preparation: RSK175 Dilution:

Batch: 5B04002 Sequence: 5B03704 Calibration: 4335002 Instrument: GL-GCVOA

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane	**257.4**	1.00	2.00	4.00	
74-84-0	Ethane	**495.3**	1.00	2.00	4.00	
74-85-1	Ethene	**567.0**	1.00	2.00	4.00	

Total Target Analytes Reported: 3

ANALYSIS DATA SHEET

Matrix Spike

Laboratory: Empirical Laboratories, LLC SDG: 1501116

Client: CB&I Project: Radford AAP

Matrix: Laboratory ID: 5B04002-MS2 File ID: 021F2101.D\Report.TXT

Sampled: Prepared: Analyzed: 02/04/15 16:05

Solids: Preparation: RSK175 Dilution:

Batch: 5B04002 Sequence: 5B03704 Calibration: 4335002 Instrument: GL-GCVOA

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane	**211.9**	1.00	2.00	4.00	
74-84-0	Ethane	**417.5**	1.00	2.00	4.00	
74-85-1	Ethene	**468.5**	1.00	2.00	4.00	

Total Target Analytes Reported: 3

ANALYSIS DATA SHEET

Matrix Spike Dup

Laboratory: Empirical Laboratories, LLC SDG: 1501116

Client: CB&I Project: Radford AAP

Matrix: Laboratory ID: 5B04002-MSD2 File ID: 022F2201.D\Report.TXT

Sampled: Prepared: Analyzed: 02/04/15 16:19

Solids: Preparation: RSK175 Dilution:

Batch: 5B04002 Sequence: 5B03704 Calibration: 4335002 Instrument: GL-GCVOA

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane	**213.1**	1.00	2.00	4.00	
74-84-0	Ethane	**419.8**	1.00	2.00	4.00	
74-85-1	Ethene	**462.0**	1.00	2.00	4.00	

Total Target Analytes Reported: 3

INITIAL CALIBRATION STANDARDS

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501116
Client:	CB&I	Project:	Radford AAP
Sequence:	4L33506	Instrument:	GL-GCVOA
Calibration:	4335002		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
14K0664	MEE CAL1 STD@0.005 ON COLUMN	4L33506-CAL1	002F0201.D\Report.TXT	11/30/14 22:55
14K0665	MEE CAL2 STD@0.01 ON COLUMN	4L33506-CAL2	003F0301.D\Report.TXT	11/30/14 23:09
14K0666	MEE CAL3 STD@0.02 ON COLUMN	4L33506-CAL3	004F0401.D\Report.TXT	11/30/14 23:22
14K0667	MEE CAL4 STD@0.1 ON COLUMN	4L33506-CAL4	005F0501.D\Report.TXT	11/30/14 23:36
14K0668	MEE CAL5 STD@0.2 ON COLUMN	4L33506-CAL5	006F0601.D\Report.TXT	11/30/14 23:49
14K0669	MEE CAL6 STD@1.0 ON COLUMN	4L33506-CAL6	007F0701.D\Report.TXT	12/01/14 00:03
14K0670	MEE CAL7 STD@2.0 ON COLUMN	4L33506-CAL7	008F0801.D\Report.TXT	12/01/14 00:17
14K0671	MEE CAL8 STD@4.0 ON COLUMN	4L33506-CAL8	009F0901.D\Report.TXT	12/01/14 00:30

ANALYSIS SEQUENCE SUMMARY

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501116
Client:	CB&I	Project:	Radford AAP
Sequence:	4L33506	Instrument:	GL-GCVOA
Calibration:	4335002		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	4L33506-CAL1	002F0201.D\Report.TXT	11/30/14 22:55
Cal Standard	4L33506-CAL2	003F0301.D\Report.TXT	11/30/14 23:09
Cal Standard	4L33506-CAL3	004F0401.D\Report.TXT	11/30/14 23:22
Cal Standard	4L33506-CAL4	005F0501.D\Report.TXT	11/30/14 23:36
Cal Standard	4L33506-CAL5	006F0601.D\Report.TXT	11/30/14 23:49
Cal Standard	4L33506-CAL6	007F0701.D\Report.TXT	12/01/14 00:03
Cal Standard	4L33506-CAL7	008F0801.D\Report.TXT	12/01/14 00:17
Cal Standard	4L33506-CAL8	009F0901.D\Report.TXT	12/01/14 00:30
Initial Cal Check	4L33506-ICV1	010F1001.D\Report.TXT	12/01/14 00:44

ANALYSIS SEQUENCE SUMMARY

RSK175

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Sequence: 5B03704
Instrument: GL-GCVOA
Calibration: 4335002

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	5B03704-CCV1	002F0201.D\Report.TXT	02/04/15 11:47
Blank	5B04002-BLK1	003F0301.D\Report.TXT	02/04/15 12:01
LCS	5B04002-BS1	004F0401.D\Report.TXT	02/04/15 12:14
49MW02	1501116-02	016F1601.D\Report.TXT	02/04/15 14:57
Calibration Check	5B03704-CCV2	017F1701.D\Report.TXT	02/04/15 15:11
50MW02	1501116-03	018F1801.D\Report.TXT	02/04/15 15:24
49TM01	1501116-04	019F1901.D\Report.TXT	02/04/15 15:38
48MW3	1501116-05	020F2001.D\Report.TXT	02/04/15 15:51
48MW3	5B04002-MS2	021F2101.D\Report.TXT	02/04/15 16:05
48MW3	5B04002-MSD2	022F2201.D\Report.TXT	02/04/15 16:19
RB012714	1501116-06	023F2301.D\Report.TXT	02/04/15 16:32
49TM02	1501116-07	024F2401.D\Report.TXT	02/04/15 16:46
Calibration Check	5B03704-CCV3	029F2901.D\Report.TXT	02/04/15 17:54

INITIAL CALIBRATION DATA

RSK175

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Calibration: 4335002
Instrument: GL-GCVOA
Matrix: Water
Calibration Dates: 11/30/14 22:55 12/1/14 0:30

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	DE*1000	RF	DE*1000	RF	DE*1000	RF	DE*1000	RF	DE*1000	RF	DE*1000	RF
Methane	0.005	~~820080.2~~	0.01	700057.9	0.02	520560	0.1	462402	0.2	447276.5	1	422586
Ethane	0.005	636984.8	0.01	567037.7	0.02	535110	0.1	583987	0.2	578530	1	582713
Ethene	0.005	526654.2	0.01	472928	0.02	494285.5	0.1	583965	0.2	596060	1	586832
Acetylene (outside certification)	0.005		0.01		0.02		0.1		0.2		1	

INITIAL CALIBRATION DATA (Continued)

RSK175

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Calibration: 4335002
Instrument: GL-GCVOA
Matrix: Water
Calibration Dates: 11/30/14 22:55 12/1/14 0:30

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	DE*1000	RF	DE*1000	RF	DE*1000	RF	DE*1000	RF	DE*1000	RF	DE*1000	RF
Methane	2	354606.5	4	302757.5								
Ethane	2	495891.5	4	423852.5								
Ethene	2	499674	4	424570								
Acetylene (outside certification)	2		4									

INITIAL CALIBRATION DATA (Continued)

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501116
Client:	CB&I	Project:	Radford AAP
Calibration:	4335002	Instrument:	GL-GCVOA
Matrix:	Water	Calibration Dates:	11/30/14 22:55 12/1/14 0:30

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Methane	458606.6	27.96427	0.8102857	0.9003783		0.9991859	0.99	
Ethane	550513.3	11.88305	6.731875	0.2221914			20	
Ethene	523121.1	11.80749	5.9265	0.2719457			20	
Acetylene (outside certification)							20	

Per current DoD QSM requirements, effective 03/17/2014, Empirical has updated the linear calibration coefficient requirements to reflect a limit of 0.990 for "r2" rather than the previously reported limit of 0.995 for "r". The change in assessment criteria is consistent with regulatory requirements.

INITIAL CALIBRATION CHECK

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501116
Client:	CB&I	Project:	Radford AAP
Instrument ID:	GL-GCVOA	Calibration:	4335002
Lab File ID:	010F1001.D\Report.TXT	Calibration Date:	11/30/14 10:55
Sequence:	4L33506	Injection Date:	12/01/14
Lab Sample ID:	4L33506-ICV1	Injection Time:	00:44

		CONC. (DE*1000)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Methane	Q	1.000	0.9059	458607	363070		-9.4	20
Ethane	A	1.000	0.9203	550513	506658		-7.966	20
Ethene	A	1.000	0.9708	523121	507854		-2.918	20

CONTINUING CALIBRATION CHECK

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501116
Client:	CB&I	Project:	Radford AAP
Instrument ID:	GL-GCVOA	Calibration:	4335002
Lab File ID:	002F0201.D\Report.TXT	Calibration Date:	11/30/14 10:55
Sequence:	5B03704	Injection Date:	02/04/15
Lab Sample ID:	5B03704-CCV1	Injection Time:	11:47

		CONC. (DE*1000)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	Q	1.000	1.068	458607	421863		6.8	20
Ethane	A	1.000	1.078	550513	593307		7.773	20
Ethene	A	1.000	1.197	523121	625981		19.66	20

CONTINUING CALIBRATION CHECK

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501116
Client:	CB&I	Project:	Radford AAP
Instrument ID:	GL-GCVOA	Calibration:	4335002
Lab File ID:	017F1701.D\Report.TXT	Calibration Date:	11/30/14 10:55
Sequence:	5B03704	Injection Date:	02/04/15
Lab Sample ID:	5B03704-CCV2	Injection Time:	15:11

		CONC. (DE*1000)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	Q	1.000	0.9911	458607	394075		-0.9	20
Ethane	A	1.000	1.010	550513	555950		0.9876	20
Ethene	A	1.000	1.085	523121	567743		8.53	20

CONTINUING CALIBRATION CHECK

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501116
Client:	CB&I	Project:	Radford AAP
Instrument ID:	GL-GCVOA	Calibration:	4335002
Lab File ID:	029F2901.D\Report.TXT	Calibration Date:	11/30/14 10:55
Sequence:	5B03704	Injection Date:	02/04/15
Lab Sample ID:	5B03704-CCV3	Injection Time:	17:54

		CONC. (DE*1000)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	Q	1.000	0.9546	458607	380852		-4.5	20
Ethane	A	1.000	0.9680	550513	532920		-3.196	20
Ethene	A	1.000	0.9807	523121	513049		-1.925	20

HOLDING TIME SUMMARY

RSK175

Laboratory: Empirical Laboratories, LLC SDG: 1501116

Client: CB&I Project: Radford AAP

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
49MW02	01/27/15 10:55	01/28/15 08:40	02/04/15 07:09	N/A	14.00	02/04/15 14:57	8.21	14.00	
50MW02	01/27/15 12:55	01/28/15 08:40	02/04/15 07:09	N/A	14.00	02/04/15 15:24	8.15	14.00	
49TM01	01/27/15 12:55	01/28/15 08:40	02/04/15 07:09	N/A	14.00	02/04/15 15:38	8.16	14.00	
48MW3	01/27/15 14:35	01/28/15 08:40	02/04/15 07:09	N/A	14.00	02/04/15 15:51	8.10	14.00	
RB012714	01/27/15 15:15	01/28/15 08:40	02/04/15 07:09	N/A	14.00	02/04/15 16:32	8.10	14.00	
49TM02	01/27/15 14:35	01/28/15 08:40	02/04/15 07:09	N/A	14.00	02/04/15 16:46	8.13	14.00	

Data for RSK 175
Supporting Raw Data / Logs

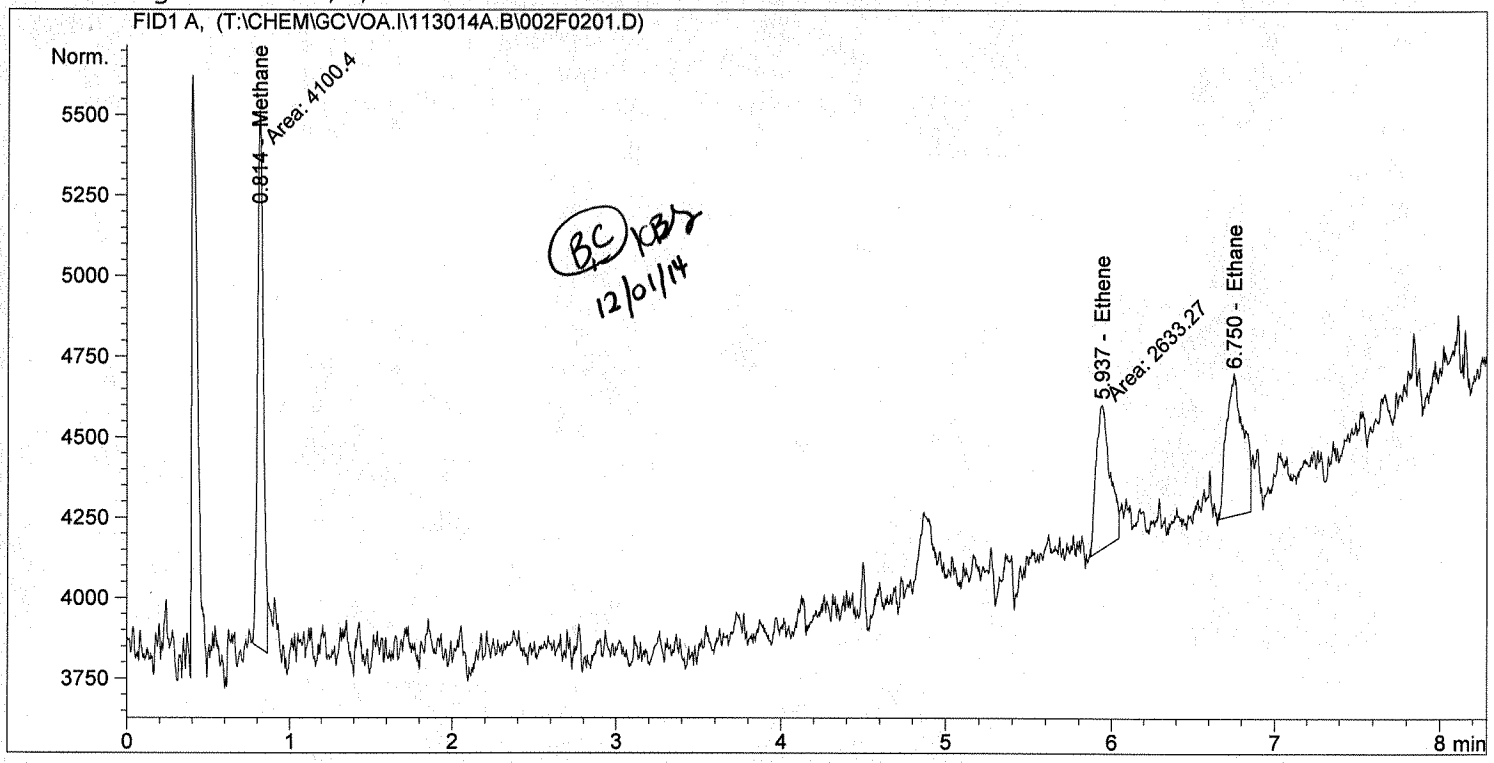
Partial Sequence: C:\HPCHEM\1\SEQUENCE\113014A.S \GCMOA\FID\MEE

PG 834

Sel	Run	Location	Method	Datafile	SeqTable	Calib:RF:RT	Sample Name
No	1	Vial 1	MEE-FAST	001F0101		F:01:01	Int Blk
No	2	Vial 2	MEE-FAST	002F0201		F:02:01	SEQ-CAL1 ID#14K0664
No	3	Vial 3	MEE-FAST	003F0301		F:03:01	SEQ-CAL2 665
No	4	Vial 4	MEE-FAST	004F0401		F:04:01	SEQ-CAL3 666
No	5	Vial 5	MEE-FAST	005F0501		F:05:01	SEQ-CAL4 667
No	6	Vial 6	MEE-FAST	006F0601		F:06:01	SEQ-CAL5 668
No	7	Vial 7	MEE-FAST	007F0701		F:07:01	SEQ-CAL6 669
No	8	Vial 8	MEE-FAST	008F0801		F:08:01	SEQ-CAL7 670
No	9	Vial 9	MEE-FAST	009F0901		F:09:01	SEQ-CAL8 671
No	10	Vial 10	MEE-FAST	010F1001		F:10:01	SEQ-ICV1 672

Data File T:\CHEM\GCVOA.I\113014A.B\002F0201.D
Sample Name: SEQ-CAL1

```
==========================================================================
Acq. Operator    :                                  Seq. Line :   2
Acq. Instrument  : GCVOA                             Location : Vial 2
Injection Date   : 11/30/2014 10:55:40 PM                Inj :   1
                                                  Inj Volume : Manually
Acq. Method      : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed     : 9/8/2011 1:56:36 PM by RDW
Analysis Method  : T:\CHEM\GCVOA.I\112614.B\113014MEE.M
Last changed     : 12/1/2014 12:02:47 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      12/1/2014 11:57:38 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs
```

12/02/14

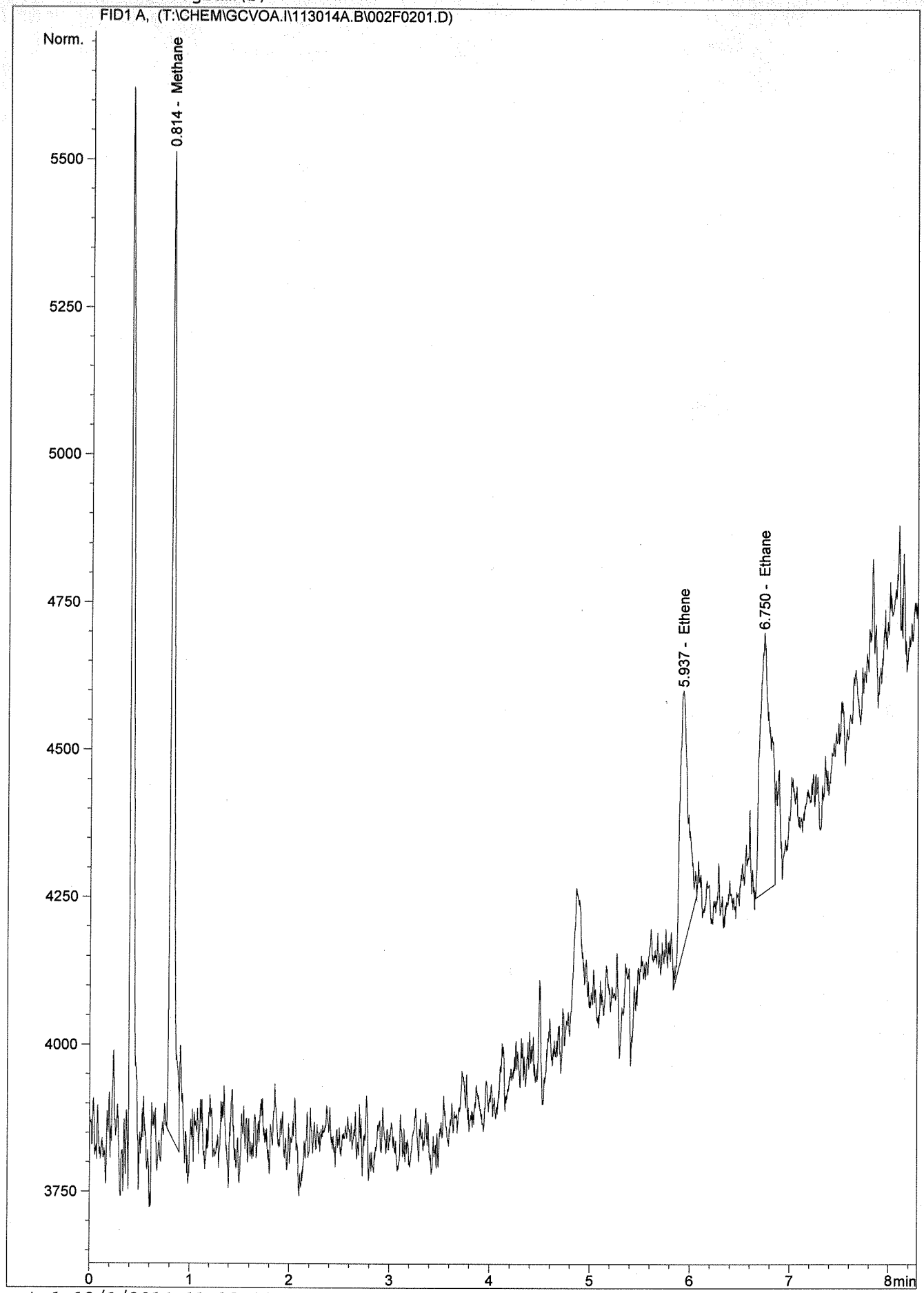
Signal 1: FID1 A,

RetTime [min]	Type	Area counts*s	Amt/Area	Amount [ug/L]	Grp	Name
0.814	MF +	4100.40137	0.00000	0.00000-		Methane
5.937	MF +	2633.27100	1.91160e-6	5.03377e-3		Ethene
6.750	BV +	3184.92358	1.81649e-6	5.78537e-3		Ethane
Totals :				1.08191e-2		

3 Warnings or Errors :

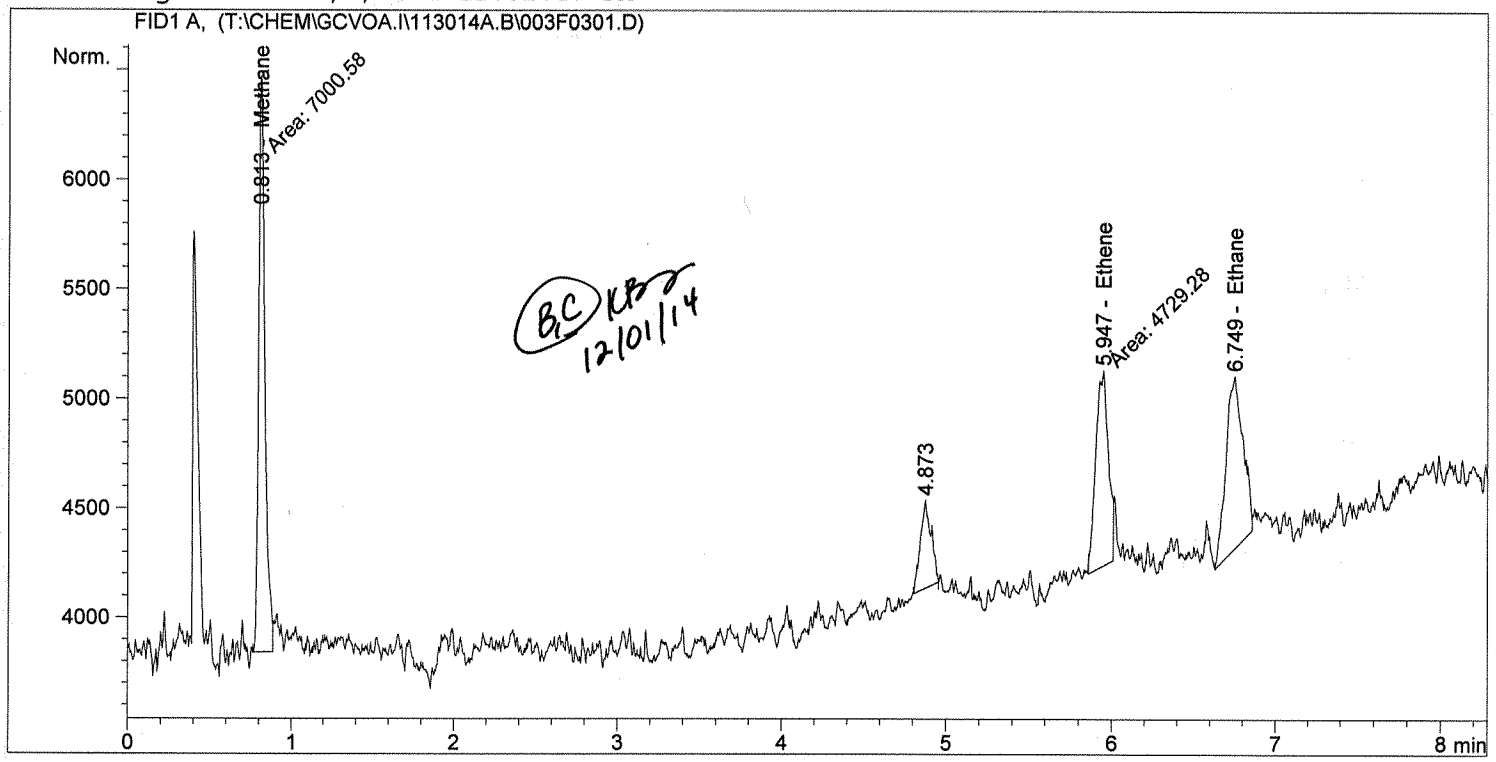
Warning : Calibration warnings (see calibration table listing)

Current Chromatogram(s)



Data File T:\CHEM\GCVOA.I\113014A.B\003F0301.D
Sample Name: SEQ-CAL2

Acq. Operator	:	Seq. Line	: 3
Acq. Instrument	: GCVOA	Location	: Vial 3
Injection Date	: 11/30/2014 11:09:15 PM	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\HPCHEM\1\METHODS\MEE-FAST.M		
Last changed	: 9/8/2011 1:56:36 PM by RDW		
Analysis Method	: T:\CHEM\GCVOA.I\112614.B\113014MEE.M		
Last changed	: 12/1/2014 12:02:47 PM		



BC KB 12/01/14

External Standard Report

Sorted By	:	Signal
Calib. Data Modified	:	12/1/2014 11:57:38 AM
Multiplier:	:	1.0000
Dilution:	:	1.0000

Do not use Multiplier & Dilution Factor with ISTDs

12/02/14

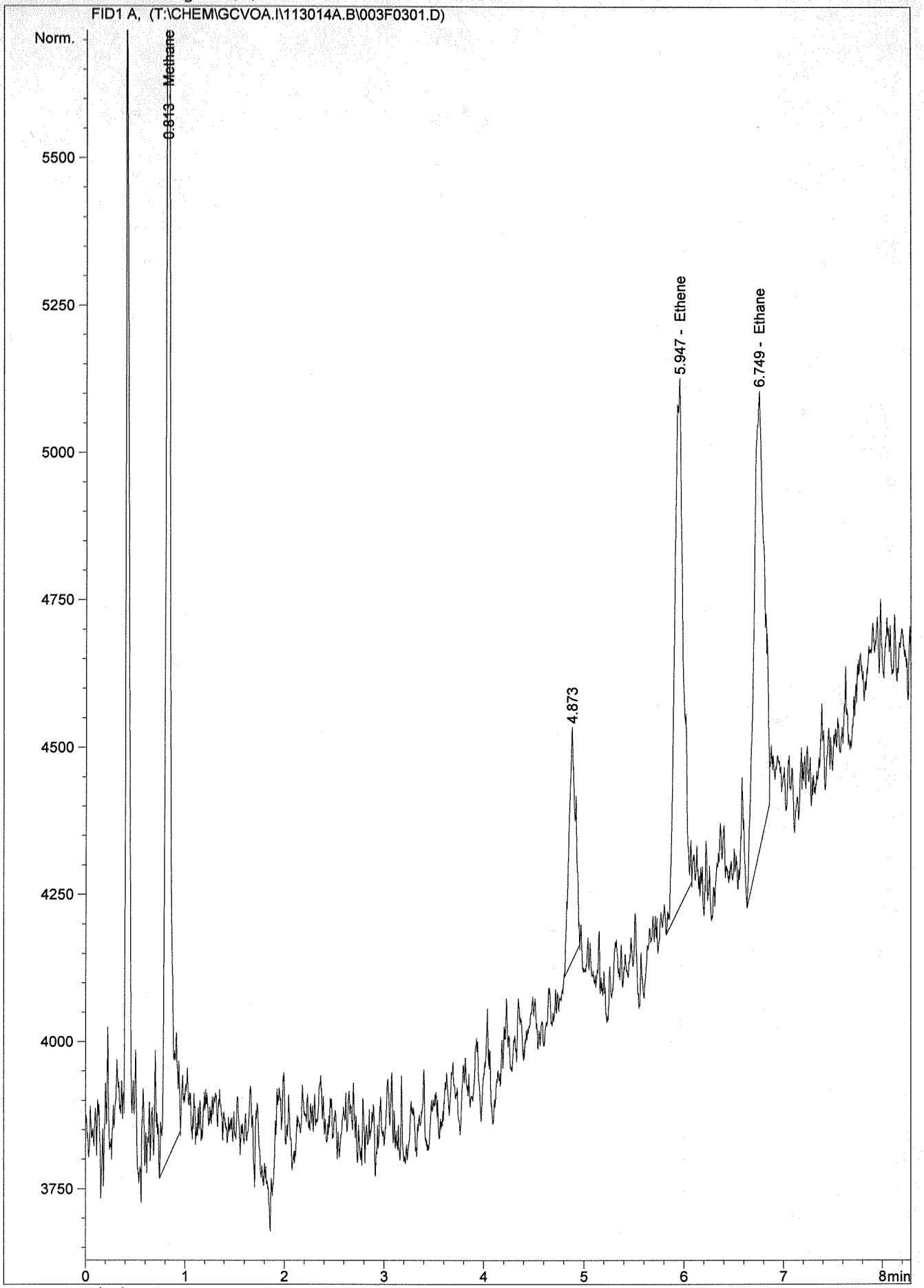
Signal 1: FID1 A,

RetTime [min]	Type	Area counts*s	Amt/Area	Amount [ug/L]	Grp	Name
0.813	MF +	7000.57910	2.24622e-7	1.57249e-3	-	Methane
5.947	MF +	4729.28027	1.91160e-6	9.04051e-3		Ethene
6.749	BV +	5670.37695	1.81649e-6	1.03002e-2		Ethane
Totals :				2.09132e-2		

2 Warnings or Errors :

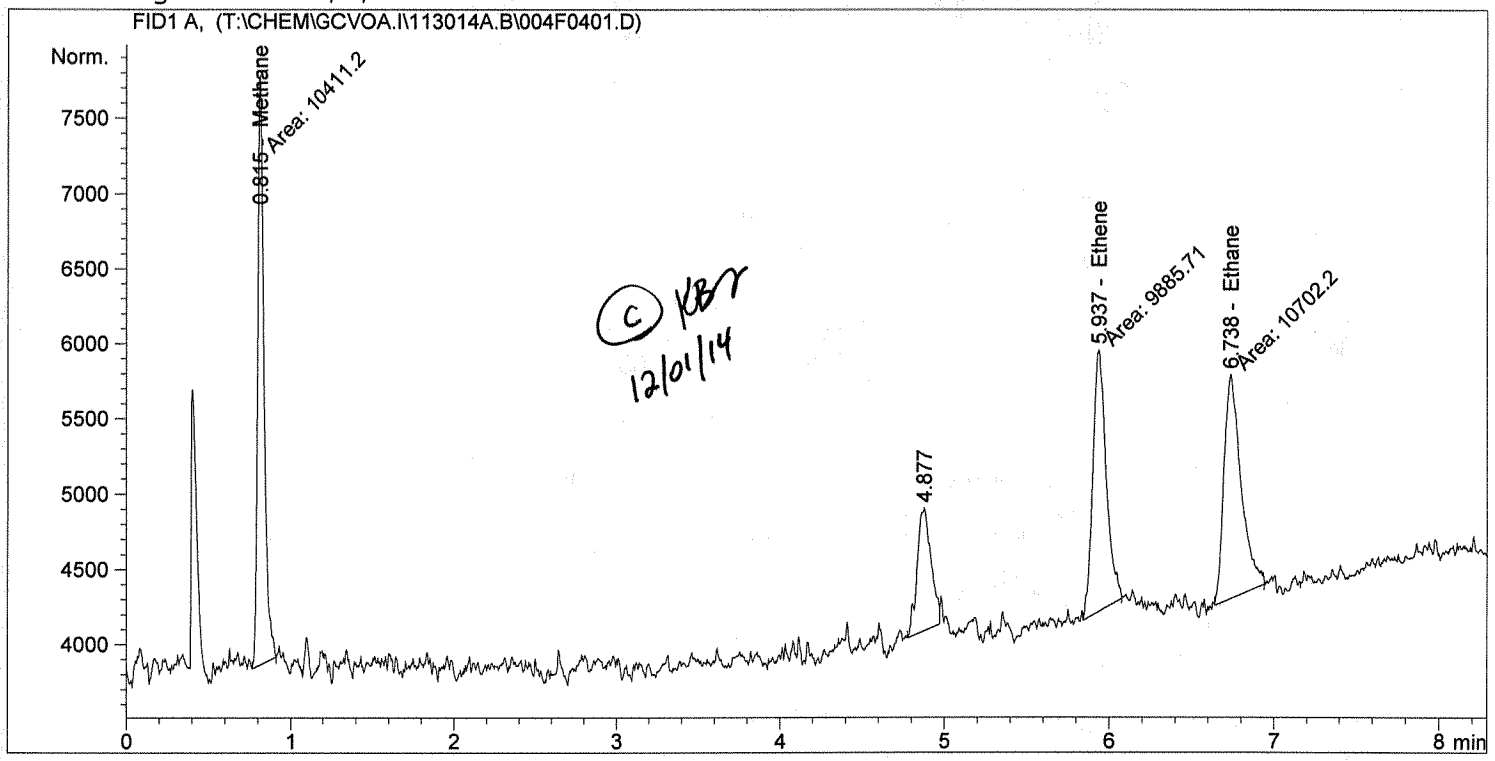
Warning : Calibration warnings (see calibration table listing)

Current Chromatogram(s)



Data File T:\CHEM\GCVOA.I\113014A.B\004F0401.D
Sample Name: SEQ-CAL3

```
==========================================================================
Acq. Operator    :                                  Seq. Line :   4
Acq. Instrument  : GCVOA                             Location : Vial 4
Injection Date   : 11/30/2014 11:22:49 PM                Inj :   1
                                                   Inj Volume : Manually
Acq. Method      : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed     : 9/8/2011 1:56:36 PM by RDW
Analysis Method  : T:\CHEM\GCVOA.I\112614.B\113014MEE.M
Last changed     : 12/1/2014 12:02:47 PM
```



(c) KBT 12/01/14

```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      12/1/2014 11:57:38 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                 [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.815 MM   +  1.04112e4  9.29520e-7 9.67743e-3-    Methane
  5.937 MM   +  9885.70996 1.91160e-6 1.88976e-2     Ethene
  6.738 MM   +  1.07022e4  1.81649e-6 1.94404e-2     Ethane

Totals :                               4.80154e-2

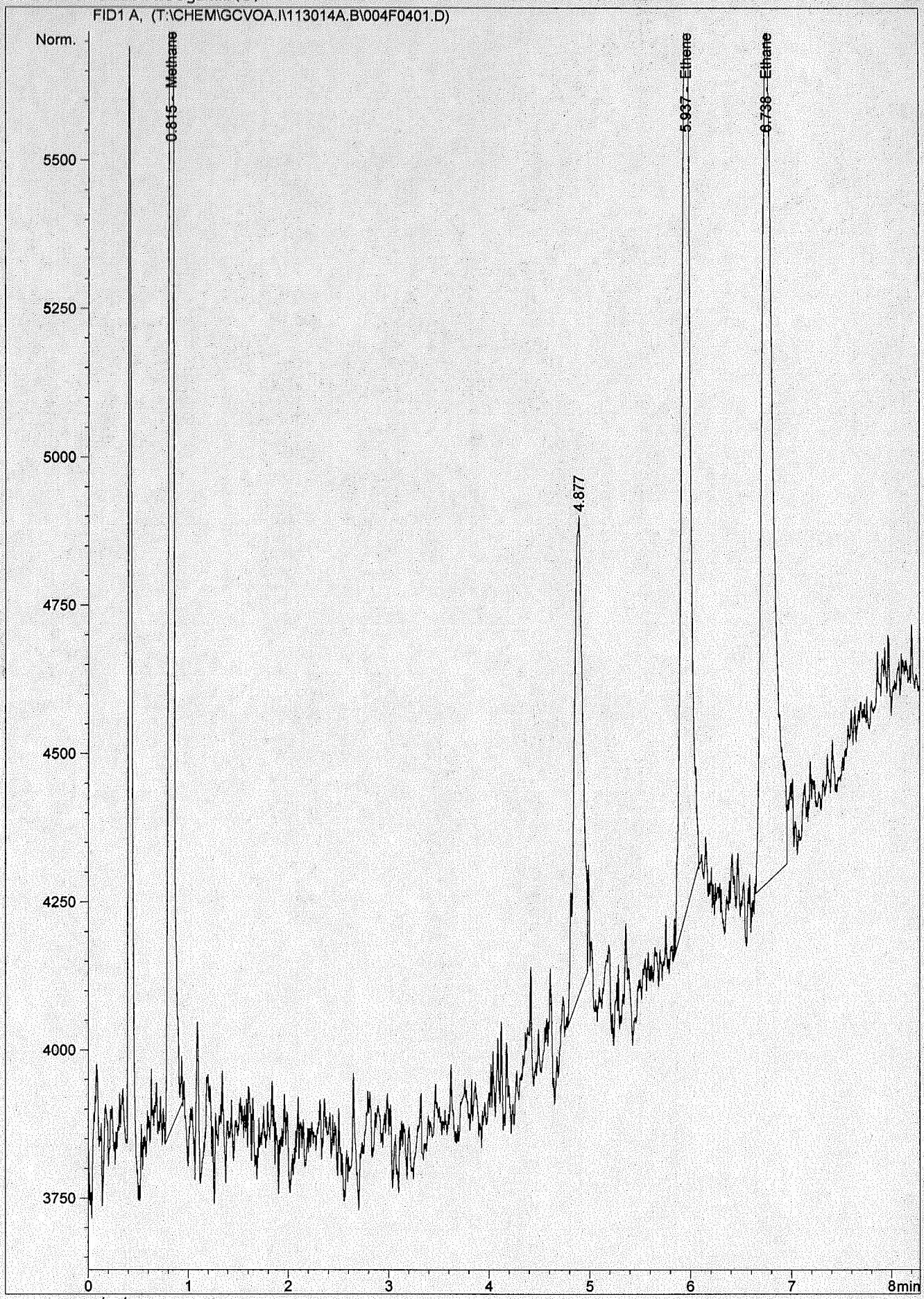

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
```

12/02/14

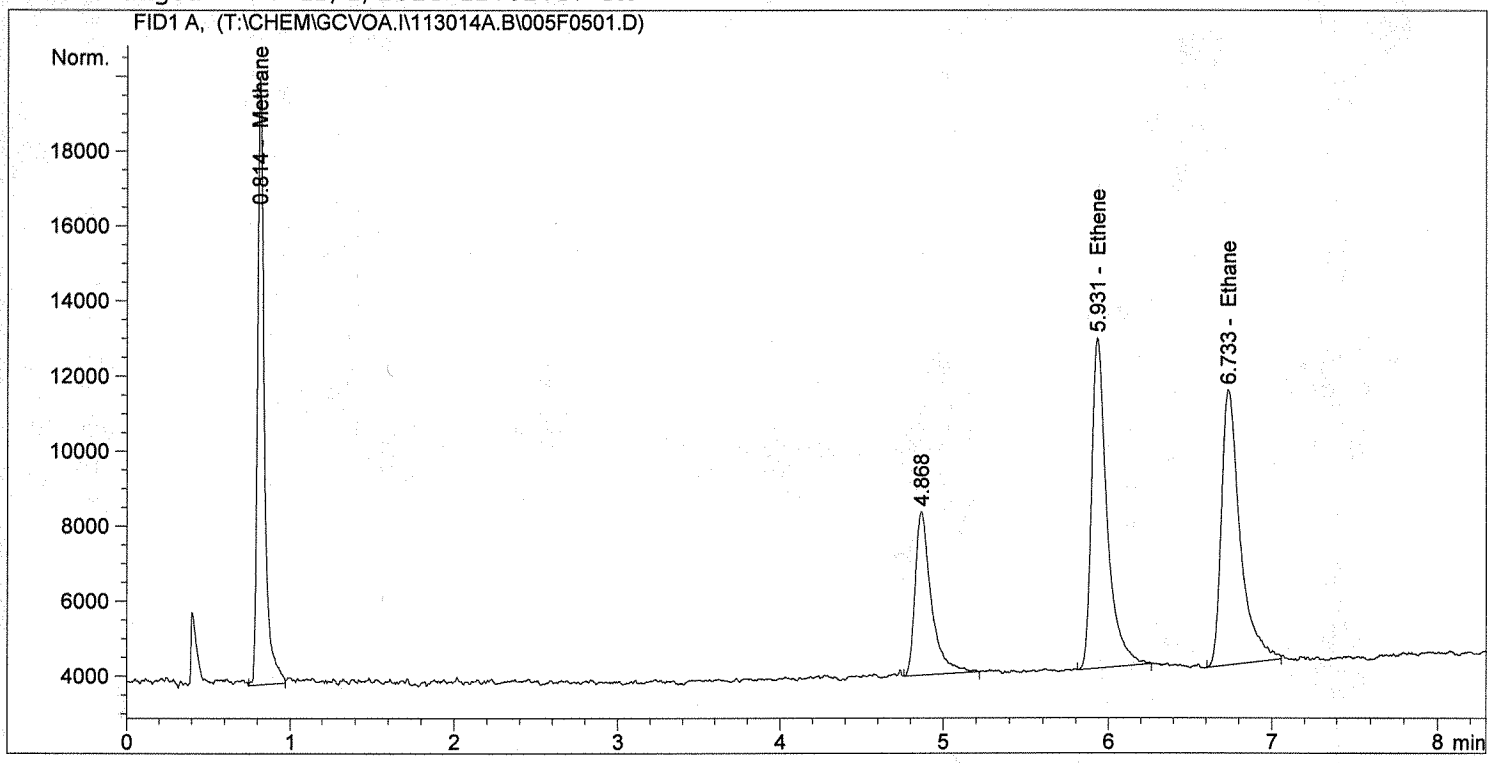
Current Chromatogram(s)

FID1 A, (T:\CHEM\GCVOA.I\113014A.B\004F0401.D)



Data File T:\CHEM\GCVOA.I\113014A.B\005F0501.D
Sample Name: SEQ-CAL4

Acq. Operator	:	Seq. Line	: 5
Acq. Instrument	: GCVOA	Location	: Vial 5
Injection Date	: 11/30/2014 11:36:22 PM	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\HPCHEM\1\METHODS\MEE-FAST.M		
Last changed	: 9/8/2011 1:56:36 PM by RDW		
Analysis Method	: T:\CHEM\GCVOA.I\112614.B\113014MEE.M		
Last changed	: 12/1/2014 12:02:47 PM		



External Standard Report

Sorted By : Signal
Calib. Data Modified : 12/1/2014 11:57:38 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

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Signal 1: FID1 A,

RetTime [min]	Type	Area counts*s	Amt/Area	Amount [ug/L]	Grp	Name
0.814	BV +	4.62402e4	2.06309e-6	9.53976e-2		Methane
5.931	BB +	5.83965e4	1.91160e-6	1.11631e-1		Ethene
6.733	BV +	5.83987e4	1.81649e-6	1.06080e-1		Ethane
Totals :				3.13109e-1		

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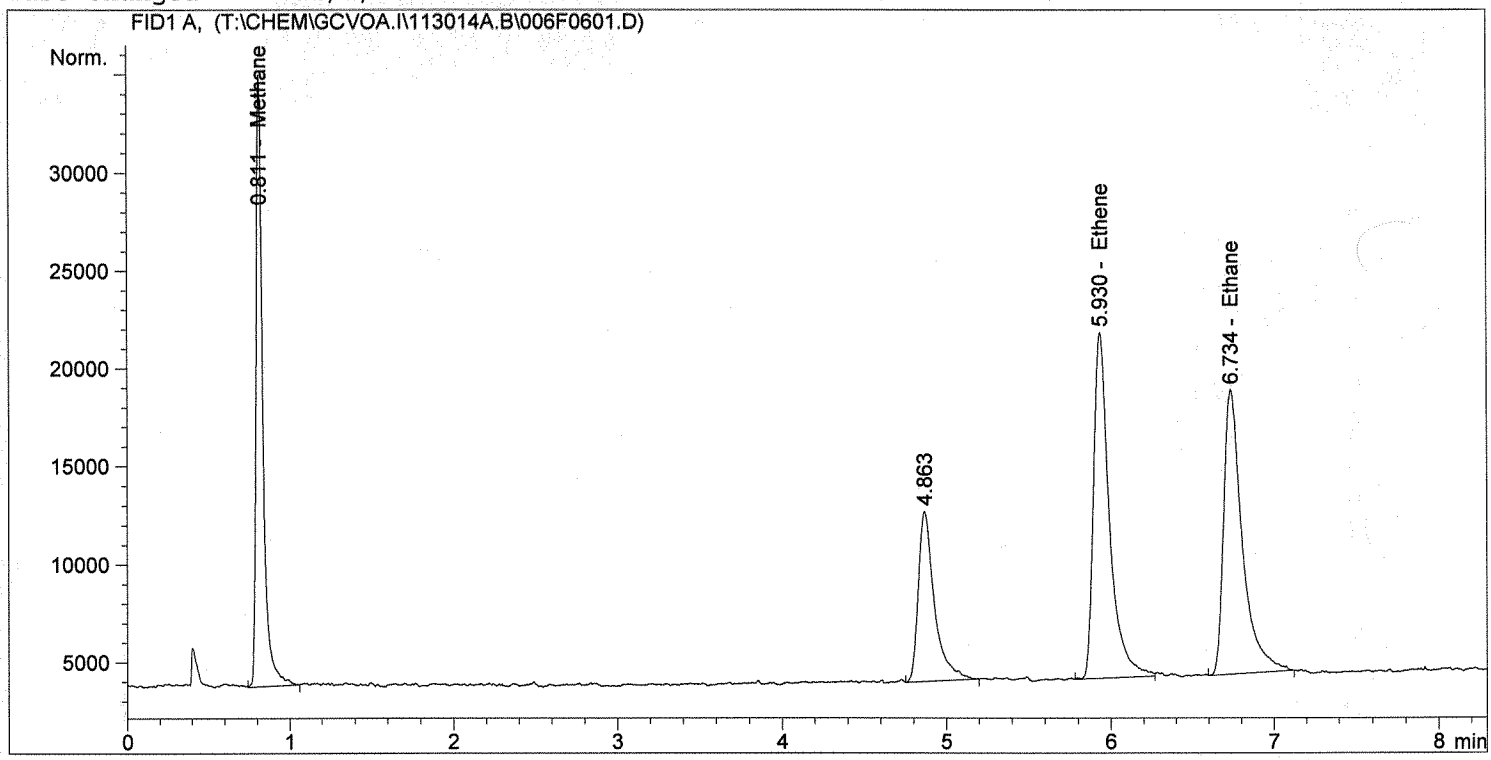
1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

Data File T:\CHEM\GCVOA.I\113014A.B\006F0601.D
Sample Name: SEQ-CAL5

==========

Acq. Operator : Seq. Line : 6
Acq. Instrument : GCVOA Location : Vial 6
Injection Date : 11/30/2014 11:49:56 PM Inj : 1
Inj Volume : Manually
Acq. Method : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed : 9/8/2011 1:56:36 PM by RDW
Analysis Method : T:\CHEM\GCVOA.I\112614.B\113014MEE.M
Last changed : 12/1/2014 12:02:47 PM



==========

External Standard Report

==========

Sorted By : Signal
Calib. Data Modified : 12/1/2014 11:57:38 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

KPP 12/01/14

Signal 1: FID1 A,

RetTime [min]	Type		Area counts*s	Amt/Area	Amount [ug/L]	Grp	Name
0.811	BB	+	8.94553e4	2.23834e-6	2.00231e-1		Methane
5.930	BV	+	1.19212e5	1.91160e-6	2.27886e-1		Ethene
6.734	BB	+	1.15706e5	1.81649e-6	2.10179e-1		Ethane
Totals :					6.38296e-1		

12/02/14

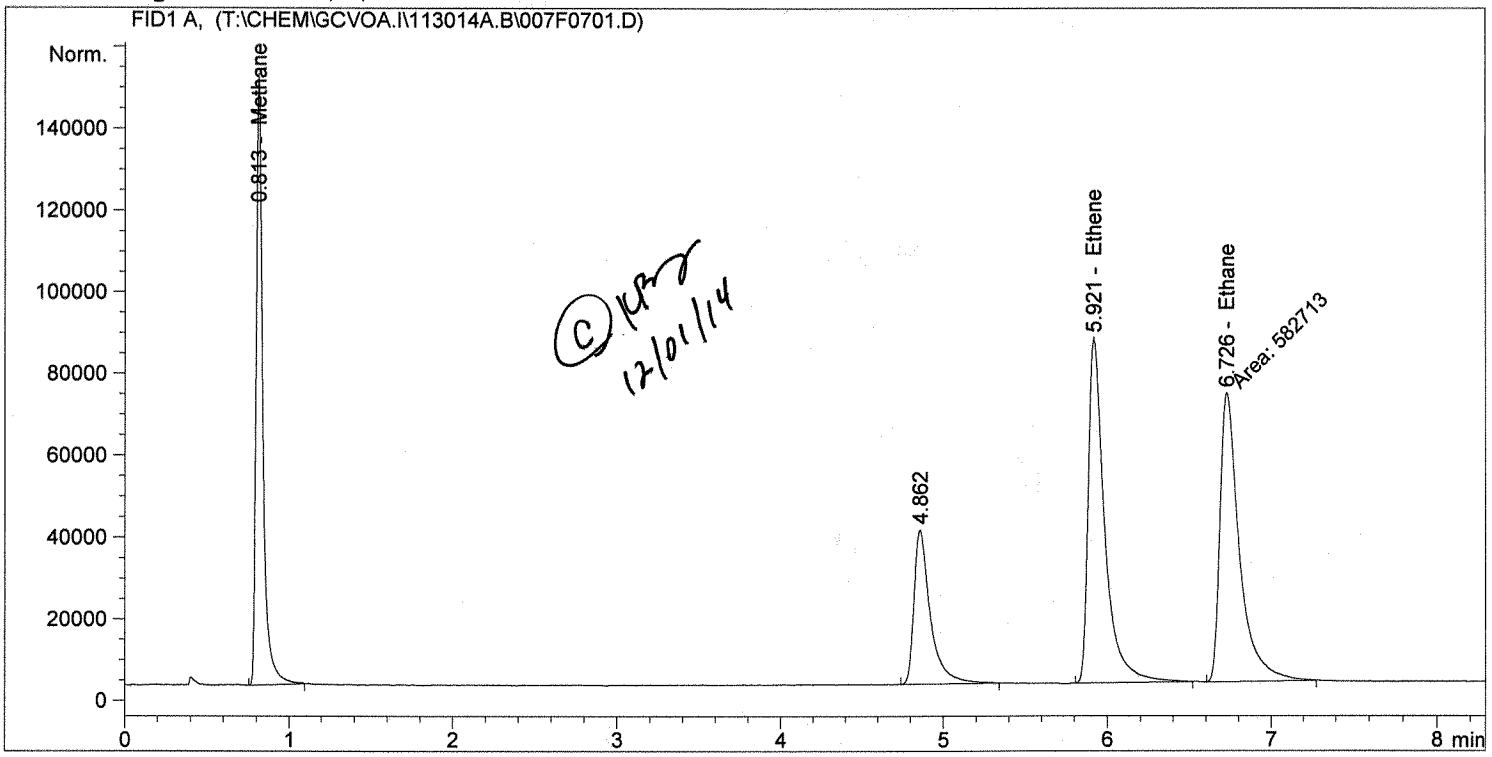
1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

Data File T:\CHEM\GCVOA.I\113014A.B\007F0701.D
Sample Name: SEQ-CAL6

Acq. Operator	:	Seq. Line	: 7
Acq. Instrument	: GCVOA	Location	: Vial 7
Injection Date	: 12/1/2014 12:03:31 AM	Inj	: 1
		Inj Volume	: Manually

Acq. Method : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed : 9/8/2011 1:56:36 PM by RDW
Analysis Method : T:\CHEM\GCVOA.I\112614.B\113014MEE.M
Last changed : 12/1/2014 12:02:47 PM



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External Standard Report

Sorted By : Signal
Calib. Data Modified : 12/1/2014 11:57:38 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

12/02/14

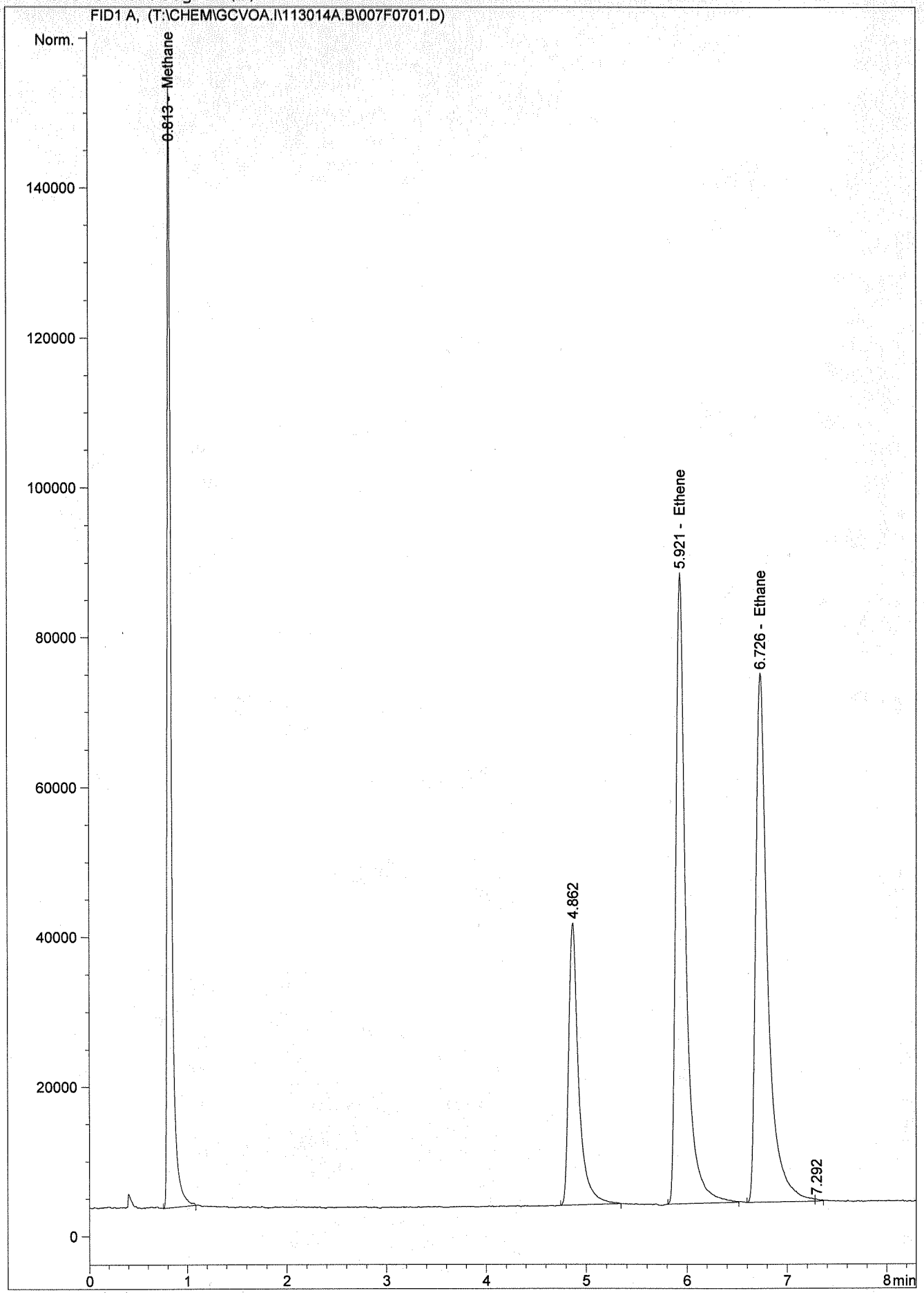
Signal 1: FID1 A,

RetTime [min]	Type		Area counts*s	Amt/Area	Amount [ug/L]	Grp	Name
0.813	BB	+	4.22586e5	2.53322e-6	1.07050		Methane
5.921	BV	+	5.86832e5	1.91160e-6	1.12179		Ethene
6.726	MM	+	5.82713e5	1.81649e-6	1.05849		Ethane
Totals :					3.25079		

1 Warnings or Errors :

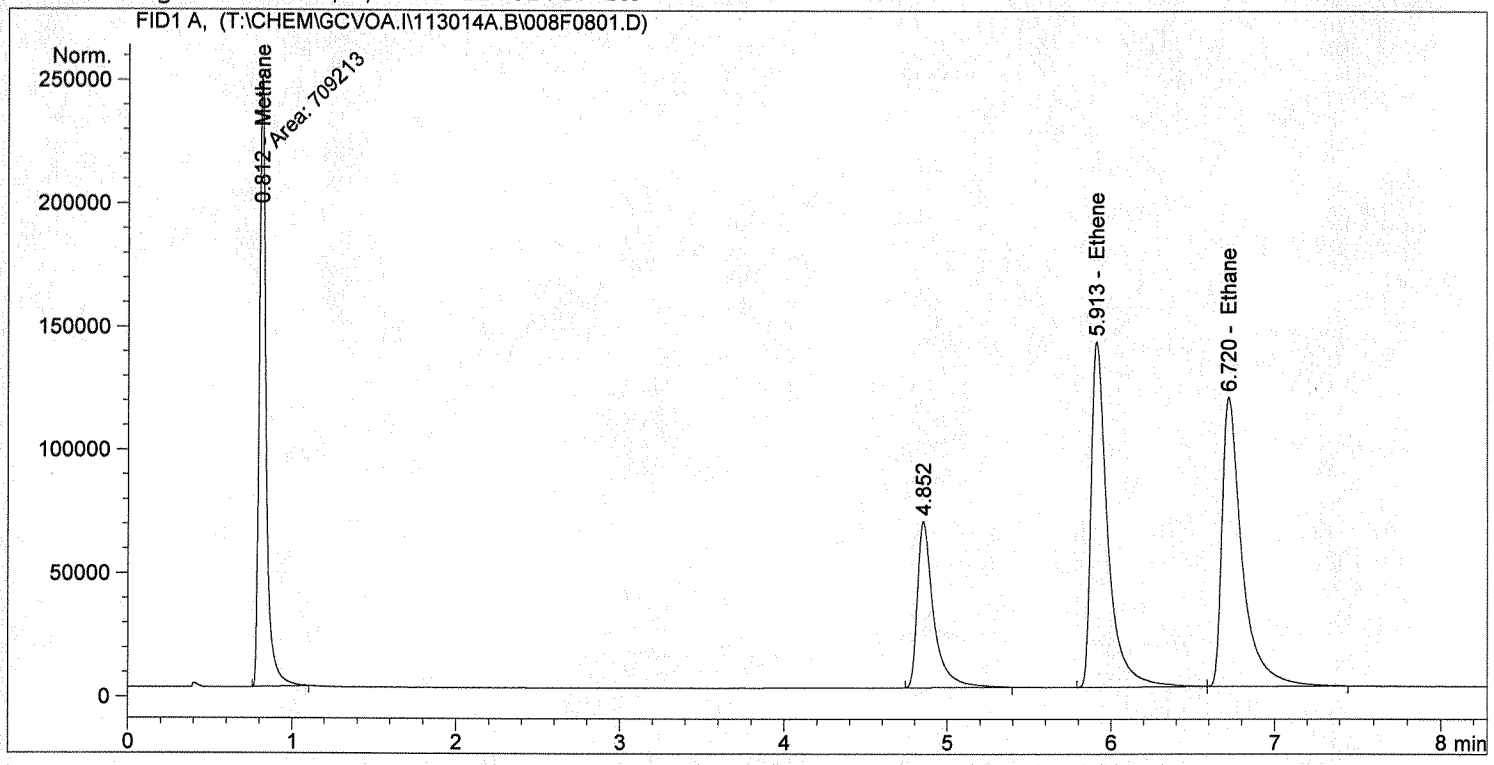
Warning : Calibration warnings (see calibration table listing)

Current Chromatogram(s)



Data File T:\CHEM\GCVOA.I\113014A.B\008F0801.D
Sample Name: SEQ-CAL7

```
==========================================================================
Acq. Operator   :                                   Seq. Line :   8
Acq. Instrument : GCVOA                              Location : Vial 8
Injection Date  : 12/1/2014 12:17:05 AM                  Inj :   1
                                                  Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 9/8/2011 1:56:36 PM by RDW
Analysis Method : T:\CHEM\GCVOA.I\112614.B\113014MEE.M
Last changed    : 12/1/2014 12:02:47 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      12/1/2014 11:57:38 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs
```

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Signal 1: FID1 A,

RetTime [min]	Type		Area counts*s	Amt/Area	Amount [ug/L]	Grp	Name
0.812	MM	+	7.09213e5	2.73291e-6	1.93822		Methane
5.913	BB	+	9.99348e5	1.91160e-6	1.91036		Ethene
6.720	BB	+	9.91783e5	1.81649e-6	1.80156		Ethane
Totals :					5.65014		

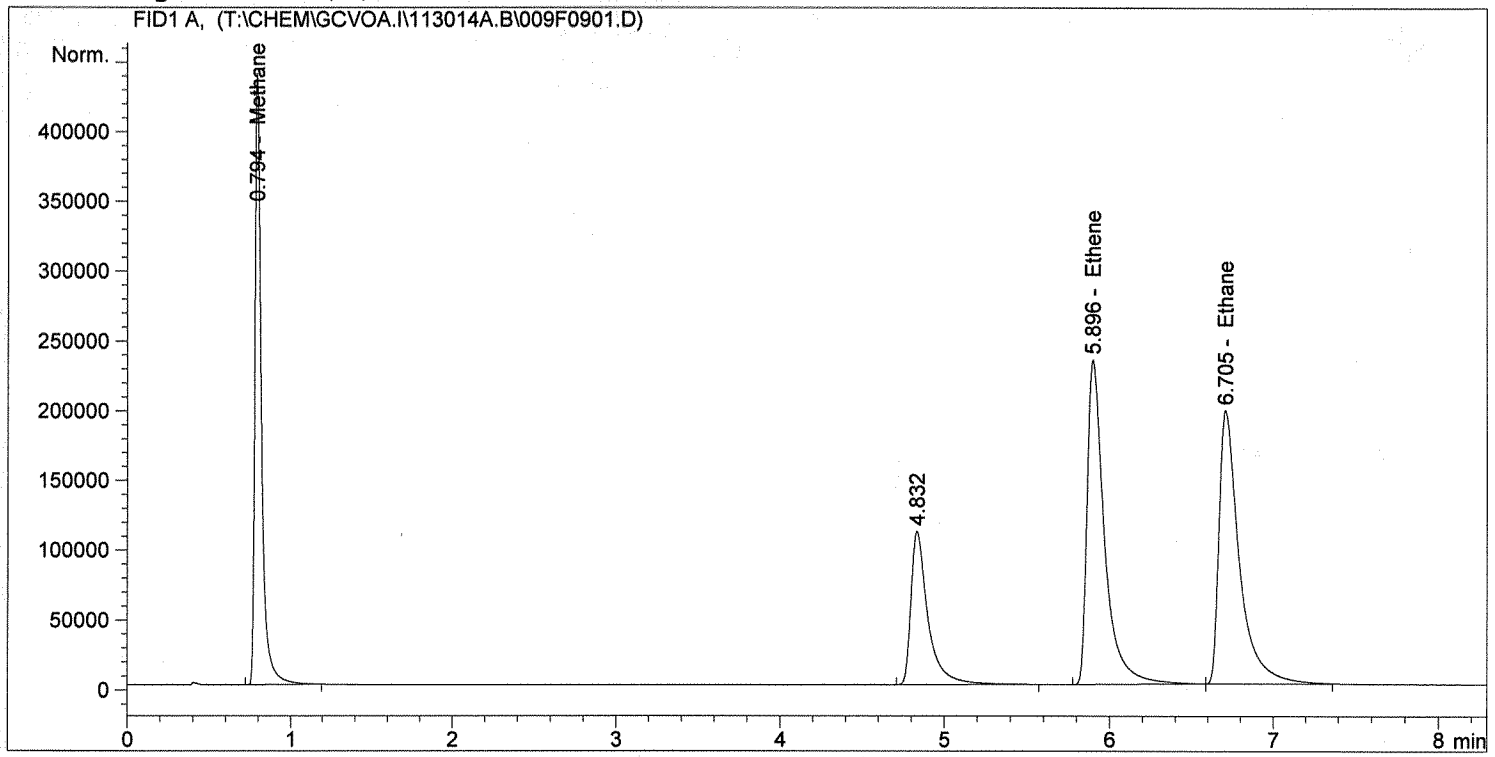
12/02/14

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

Data File T:\CHEM\GCVOA.I\113014A.B\009F0901.D
Sample Name: SEQ-CAL8

```
==========================================================================
Acq. Operator    :                                  Seq. Line :    9
Acq. Instrument : GCVOA                              Location : Vial 9
Injection Date  : 12/1/2014 12:30:39 AM                  Inj :    1
                                                  Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 9/8/2011 1:56:36 PM by RDW
Analysis Method : T:\CHEM\GCVOA.I\112614.B\113014MEE.M
Last changed    : 12/1/2014 12:02:47 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      12/1/2014 11:57:38 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area     Amount    Grp   Name
 [min]           counts*s                 [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.794 BBA +   1.21103e6  3.31721e-6    4.01722+   Methane
  5.896 BB  +   1.69828e6  1.91160e-6    3.24645    Ethene
  6.705 BV  +   1.69541e6  1.81649e-6    3.07969    Ethane

Totals :                                 10.34336


2 Warnings or Errors :

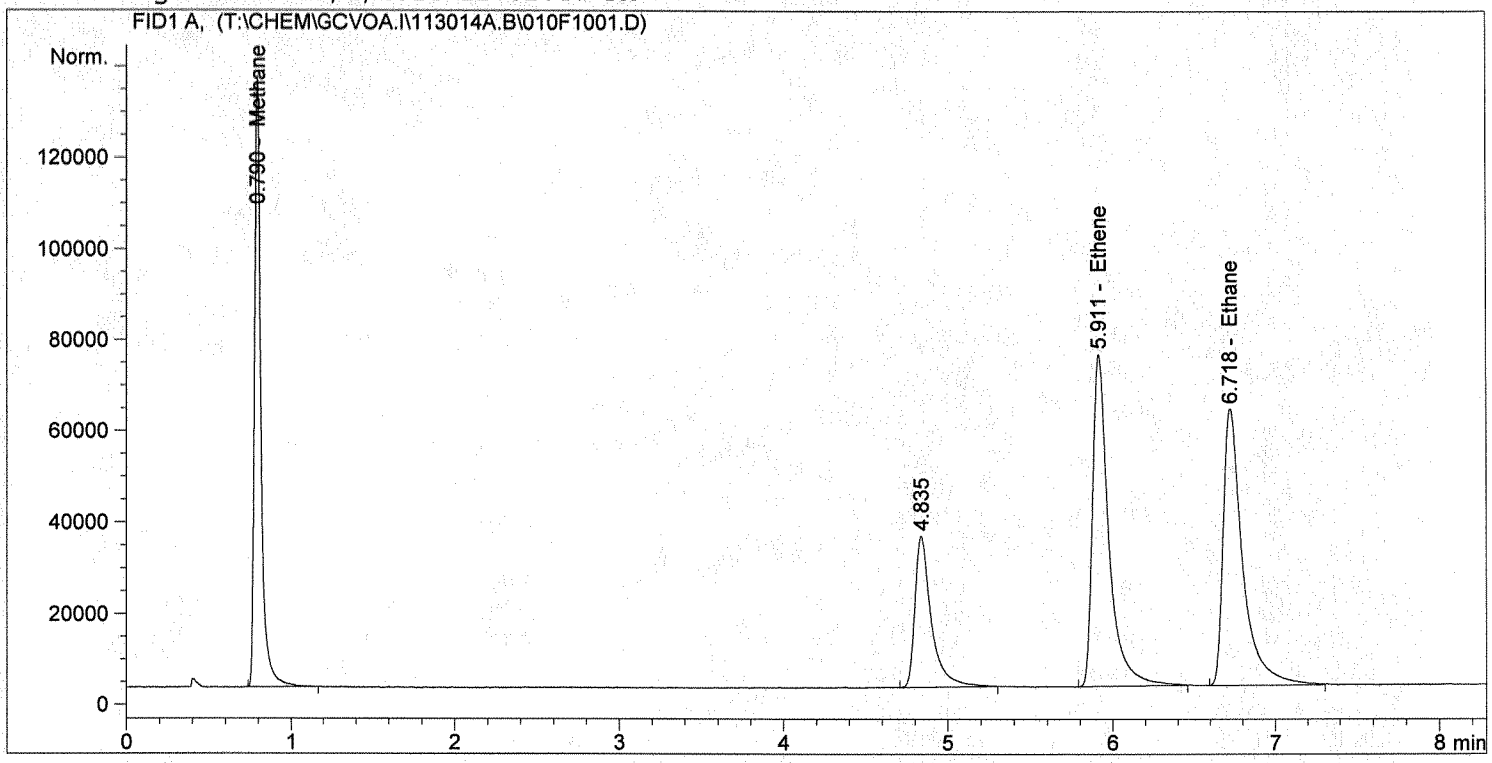
Warning : Calibration warnings (see calibration table listing)
```

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Data File T:\CHEM\GCVOA.I\113014A.B\010F1001.D
Sample Name: SEQ-ICV1

```
==========================================================================
Acq. Operator    :                                  Seq. Line :  10
Acq. Instrument  : GCVOA                             Location : Vial 10
Injection Date   : 12/1/2014 12:44:14 AM                 Inj :   1
                                                  Inj Volume : Manually
Acq. Method      : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed     : 9/8/2011 1:56:36 PM by RDW
Analysis Method  : T:\CHEM\GCVOA.I\112614.B\113014MEE.M
Last changed     : 12/1/2014 12:02:47 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      12/1/2014 11:57:38 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs
```

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Signal 1: FID1 A,

RetTime [min]	Type	Area counts*s	Amt/Area	Amount [ug/L]	Grp	Name
0.790	BBA +	3.63070e5	2.49501e-6	9.05862e-1		Methane
5.911	BV +	5.07854e5	1.91160e-6	9.70816e-1		Ethene
6.718	BV +	5.06658e5	1.81649e-6	9.20337e-1		Ethane
Totals :				2.79701		

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1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

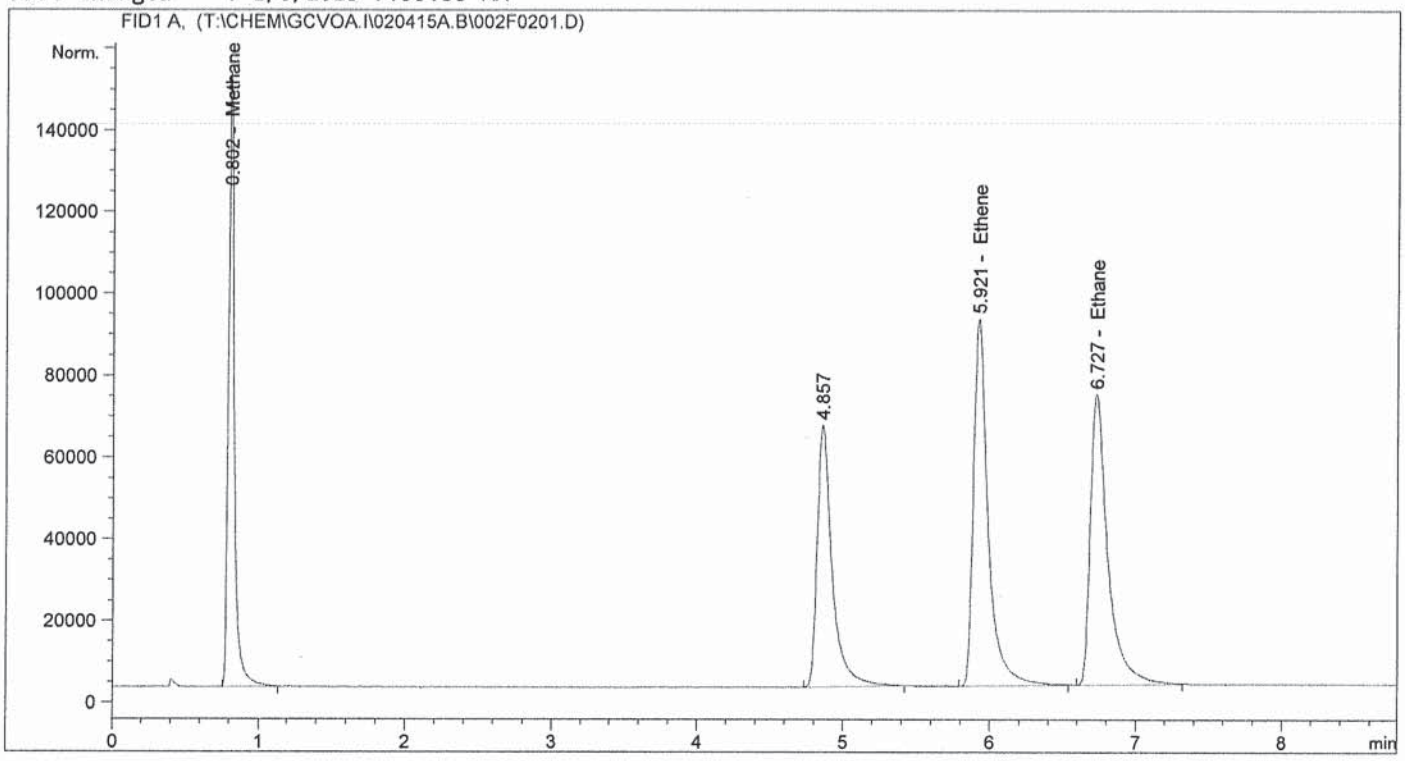
Partial Sequence: C:\HPCHEM\1\SEQUENCE\020415.S \GCVOA\FID\MEE

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Sel	Run	Location	Method	Datafile	SeqTable	Calib:RF:RT	Sample Name
No	1	Vial 1	MEE-FAST	001F0101	F:01:01		INST BLANK
No	2	Vial 2	MEE-FAST	002F0201	F:02:01		SEQ-CCV1 15B0103
No	3	Vial 3	MEE-FAST	003F0301	F:03:01		5B04002-BLK1 x1
No	4	Vial 4	MEE-FAST	004F0401	F:04:01		5B04002-BS1
No	5	Vial 5	MEE-FAST	005F0501	F:05:01		1501102-01
No	6	Vial 6	MEE-FAST	006F0601	F:06:01		1501102-02
No	7	Vial 7	MEE-FAST	007F0701	F:07:01		1501102-04
No	8	Vial 8	MEE-FAST	008F0801	F:08:01		1501102-05
No	9	Vial 9	MEE-FAST	009F0901	F:09:01		1501104-01
No	10	Vial 10	MEE-FAST	010F1001	F:10:01		1501104-02
No	11	Vial 11	MEE-FAST	011F1101	F:11:01		5B04002-MS1
No	12	Vial 12	MEE-FAST	012F1201	F:12:01		5B04002-MSD1
No	13	Vial 13	MEE-FAST	013F1301	F:13:01		1501104-03
No	14	Vial 14	MEE-FAST	014F1401	F:14:01		1501104-04
No	15	Vial 15	MEE-FAST	015F1501	F:15:01		1501104-05
No	16	Vial 16	MEE-FAST	016F1601	F:16:01		1501116-02
No	17	Vial 17	MEE-FAST	017F1701	F:17:01		SEQ-CCV2 15B0103
No	18	Vial 18	MEE-FAST	018F1801	F:18:01		1501116-03 x1
No	19	Vial 19	MEE-FAST	019F1901	F:19:01		1501116-04
No	20	Vial 20	MEE-FAST	020F2001	F:20:01		1501116-05
No	21	Vial 21	MEE-FAST	021F2101	F:21:01		5B04002-MS2
No	22	Vial 22	MEE-FAST	022F2201	F:22:01		5B04002-MSD2
No	23	Vial 23	MEE-FAST	023F2301	F:23:01		1501116-06
No	24	Vial 24	MEE-FAST	024F2401	F:24:01		1501116-07
No	25	Vial 25	MEE-FAST	025F2501	F:25:01		1501124-03
No	26	Vial 26	MEE-FAST	026F2601	F:26:01		1501124-04
No	27	Vial 27	MEE-FAST	027F2701	F:27:01		1501124-05
No	28	Vial 28	MEE-FAST	028F2801	F:28:01		1501134-03
No	29	Vial 29	MEE-FAST	029F2901	F:29:01		SEQ-CCV3 15B0103

Data File T:\CHEM\GCVOA.I\020415A.B\002F0201.D
Sample Name: SEQ-CCV1

```
==========================================================================
Acq. Operator   :                                  Seq. Line :   2
Acq. Instrument : GCVOA                            Location : Vial 2
Injection Date  : 2/4/2015 11:47:29 AM                 Inj :   1
                                                   Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                 [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.802 BB   +  4.21863e5  2.53276e-6    1.06848    Methane
  5.921 BB   +  6.25981e5  1.91160e-6    1.19663    Ethene
  6.727 BV   +  5.93307e5  1.81649e-6    1.07773    Ethane

Totals :                                 3.34284

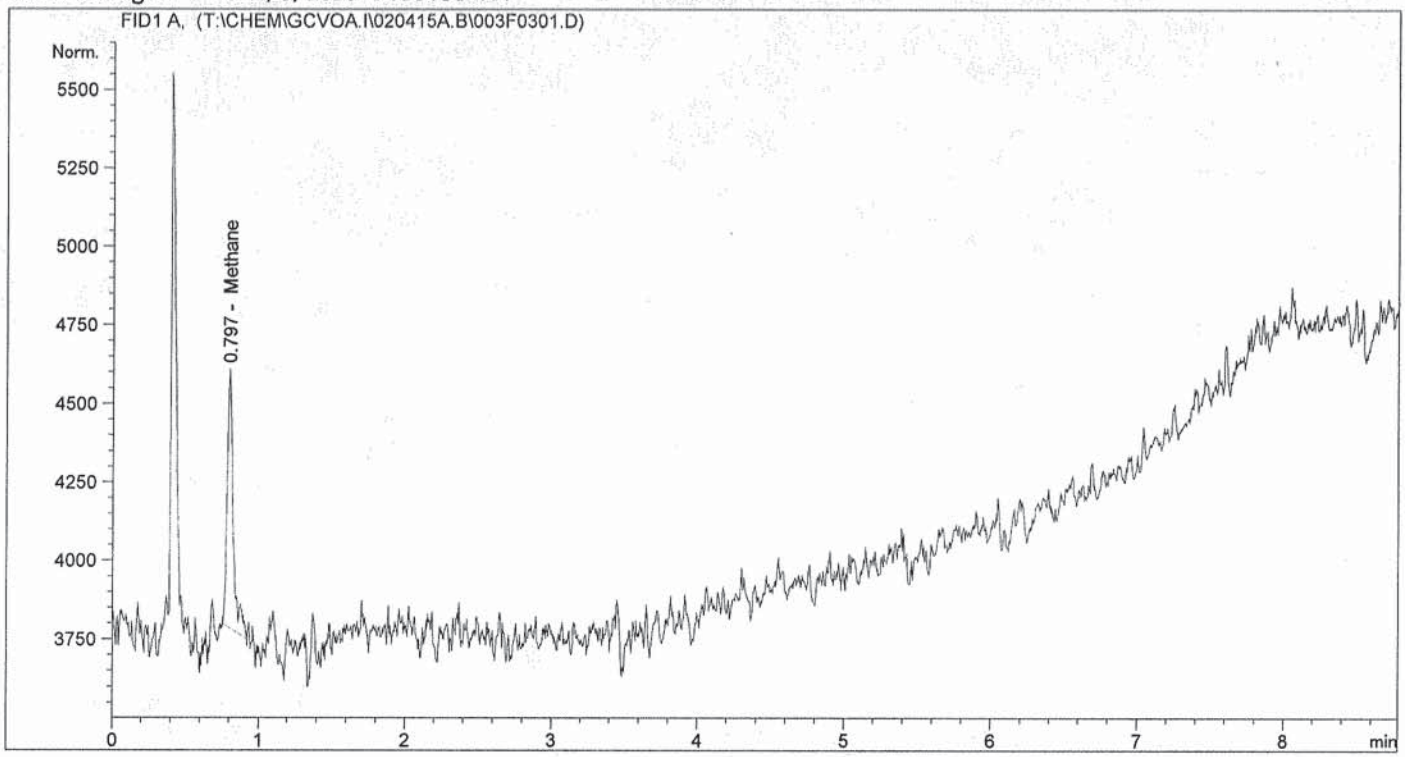

==========================================================================
                         *** End of Report ***
```

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Data File T:\CHEM\GCVOA.I\020415A.B\003F0301.D
Sample Name: 5B04002-BLK1

```
======================================================================
Acq. Operator    :                                Seq. Line :   3
Acq. Instrument : GCVOA                           Location : Vial 3
Injection Date  : 2/4/2015 12:01:06 PM                 Inj :   1
                                                 Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
```




```
======================================================================
                    External Standard Report
======================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.797 BB   +  2331.34180    0.00000    0.00000-   Methane
  5.921            -           -          -     -   Ethene
  6.727            -           -          -     -   Ethane

Totals :                                  0.00000

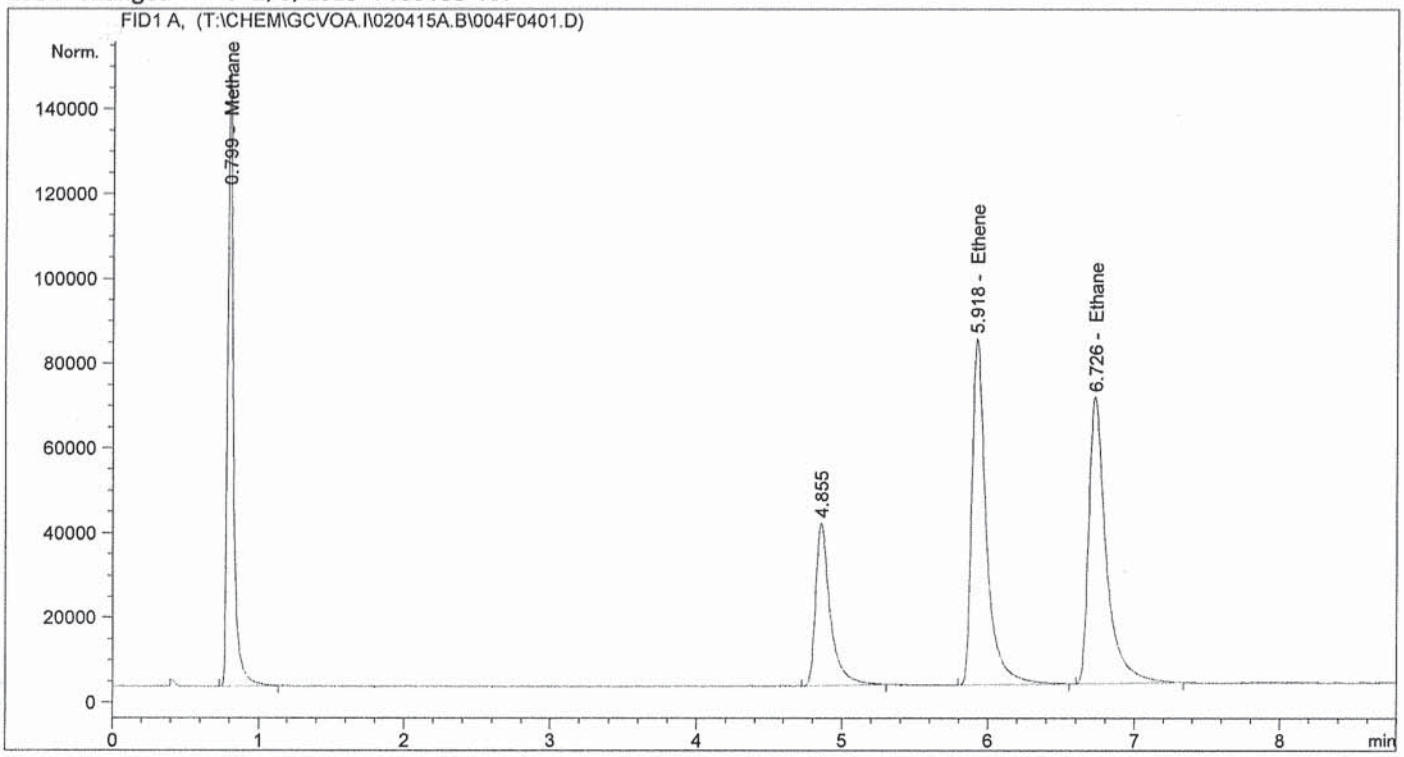

3 Warnings or Errors :
```

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Data File T:\CHEM\GCVOA.I\020415A.B\004F0401.D
Sample Name: 5B04002-BS1

```
==========================================================================
Acq. Operator   :                                Seq. Line :   4
Acq. Instrument : GCVOA                           Location : Vial 4
Injection Date  : 2/4/2015 12:14:40 PM                Inj :   1
                                                 Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                 [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.799 BB   +  4.03003e5  2.52065e-6    1.01583    Methane
  5.918 BB   +  5.69819e5  1.91160e-6    1.08927    Ethene
  6.726 BB   +  5.61935e5  1.81649e-6    1.02075    Ethane

Totals :                                 3.12585

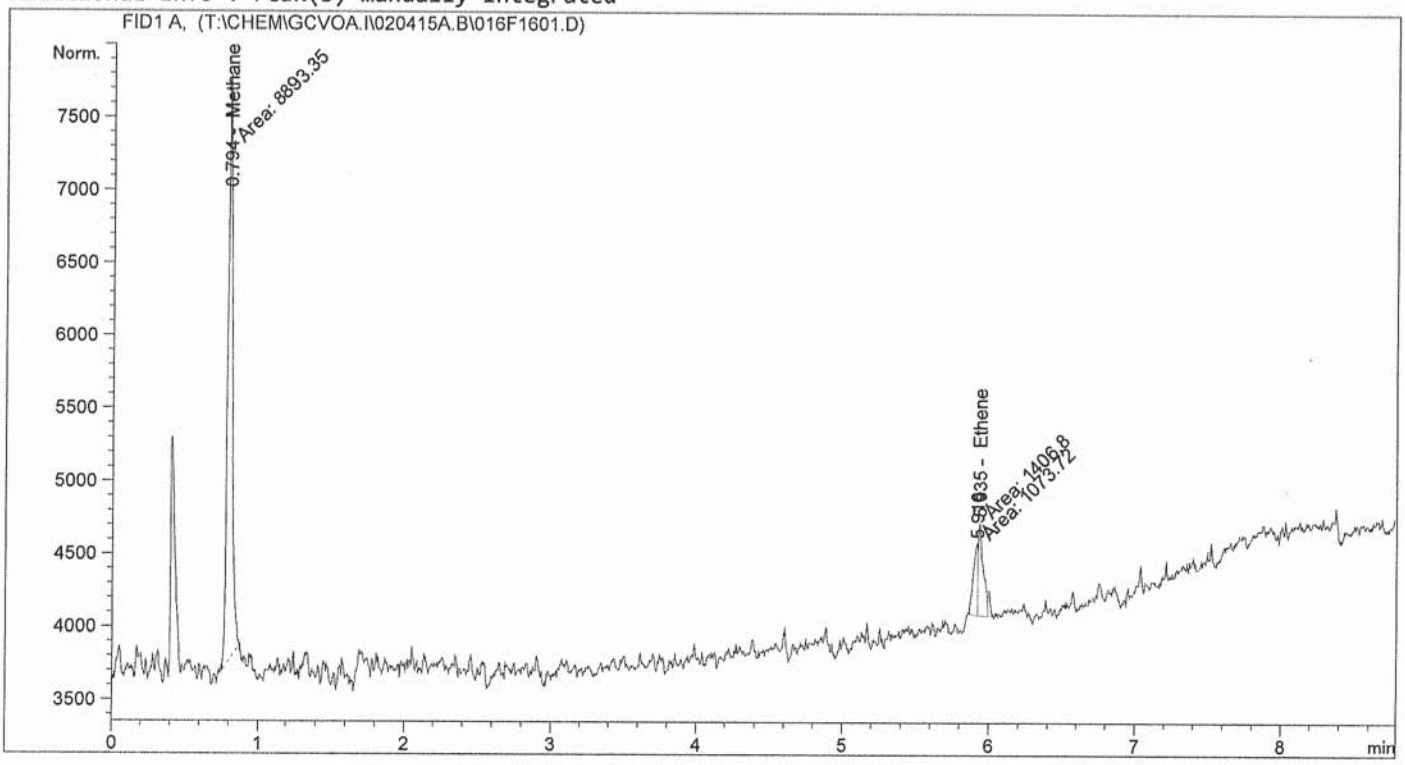

==========================================================================
                         *** End of Report ***
```

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Data File T:\CHEM\GCVOA.I\020415A.B\016F1601.D
Sample Name: 1501116-02

Acq. Operator	:	Seq. Line	: 16
Acq. Instrument	: GCVOA	Location	: Vial 16
Injection Date	: 2/4/2015 2:57:40 PM	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\HPCHEM\1\METHODS\MEE-FAST.M		
Last changed	: 2/4/2015 11:03:36 AM		
Analysis Method	: T:\CHEM\GCVOA.I\020415A.B\113014MEE.M		
Last changed	: 2/6/2015 7:55:33 AM		
Additional Info	: Peak(s) manually integrated		



External Standard Report

Sorted By	:	Signal
Calib. Data Modified	:	2/6/2015 7:55:01 AM
Multiplier	:	1.0000
Dilution	:	1.0000

Do not use Multiplier & Dilution Factor with ISTDs

MS 216115

Signal 1: FID1 A,

RetTime [min]	Type	Area counts*s	Amt/Area	Amount [ug/L]	Grp	Name
0.794	MM +	8893.35254	6.82449e-7	6.06926e-3	-	Methane
5.935	MF +	1406.80151	1.91160e-6	2.68925e-3	-	Ethene
6.727		-	-	-	-	Ethane

Totals : 8.75851e-3

02/09/15

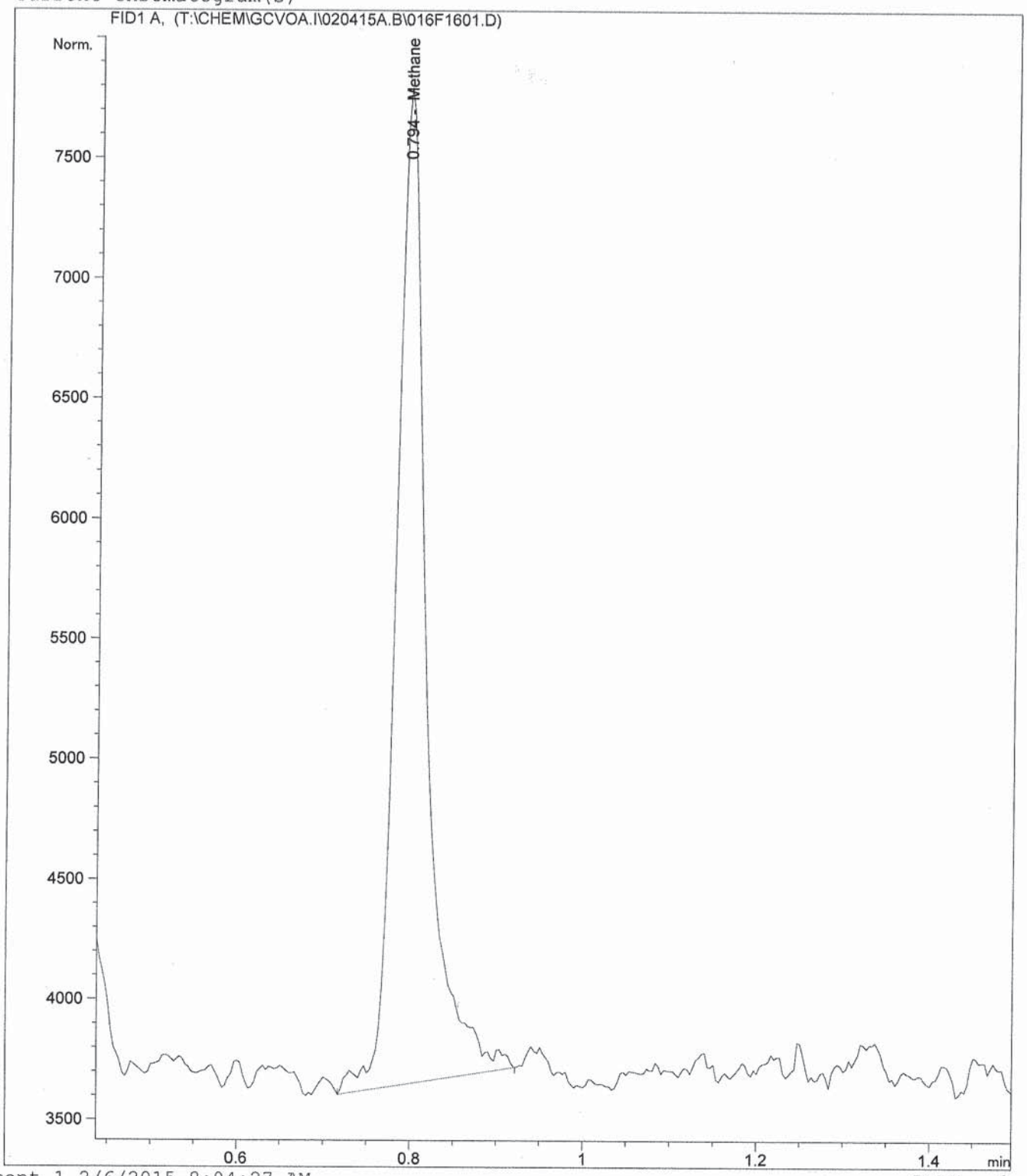
Ethene: $\frac{1406.80151}{523121.1} = .0026892246352$

2 Warnings or Errors :

Print of window 38: Current Chromatogram(s)
Data File : T:\CHEM\GCVOA.I\020415A.B\016F1601.D
Sample Name : 1501116-02

Acq. Operator : Seq. Line : 16
Acq. Instrument : GCVOA Location : Vial 16
Injection Date : 2/4/2015 2:57:40 PM Inj : 1
Inj Volume : Manually
Acq. Method : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed : 2/6/2015 7:55:33 AM
Additional Info : Peak(s) manually integrated

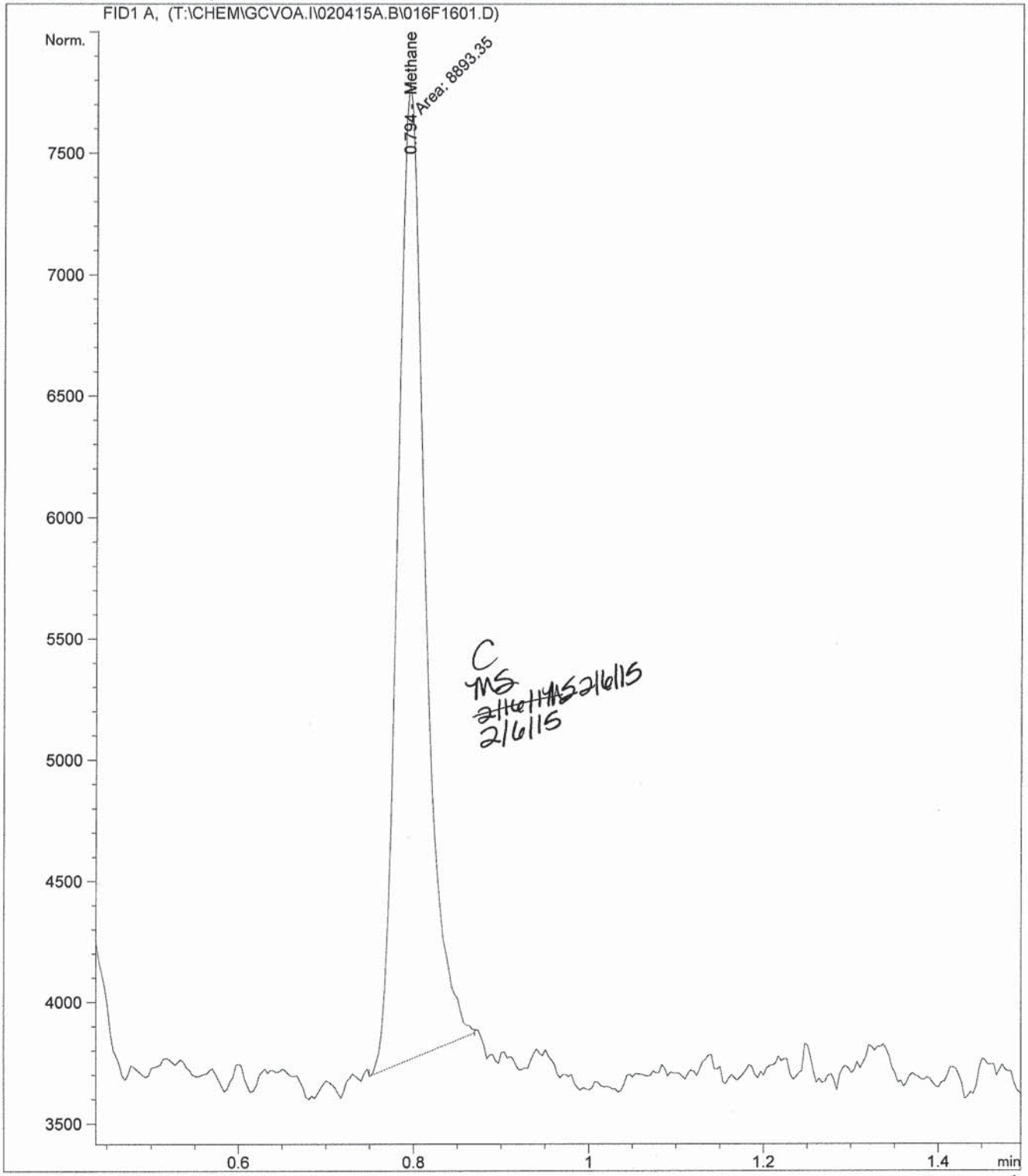
Current Chromatogram(s)



Print of window 38: Current Chromatogram(s)
Data File : T:\CHEM\GCVOA.I\020415A.B\016F1601.D
Sample Name : 1501116-02

Acq. Operator	:	Seq. Line	: 16
Acq. Instrument	: GCVOA	Location	: Vial 16
Injection Date	: 2/4/2015 2:57:40 PM	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\HPCHEM\1\METHODS\MEE-FAST.M		
Last changed	: 2/4/2015 11:03:36 AM		
Analysis Method	: T:\CHEM\GCVOA.I\020415A.B\113014MEE.M		
Last changed	: 2/6/2015 7:55:33 AM		
Additional Info	: Peak(s) manually integrated		

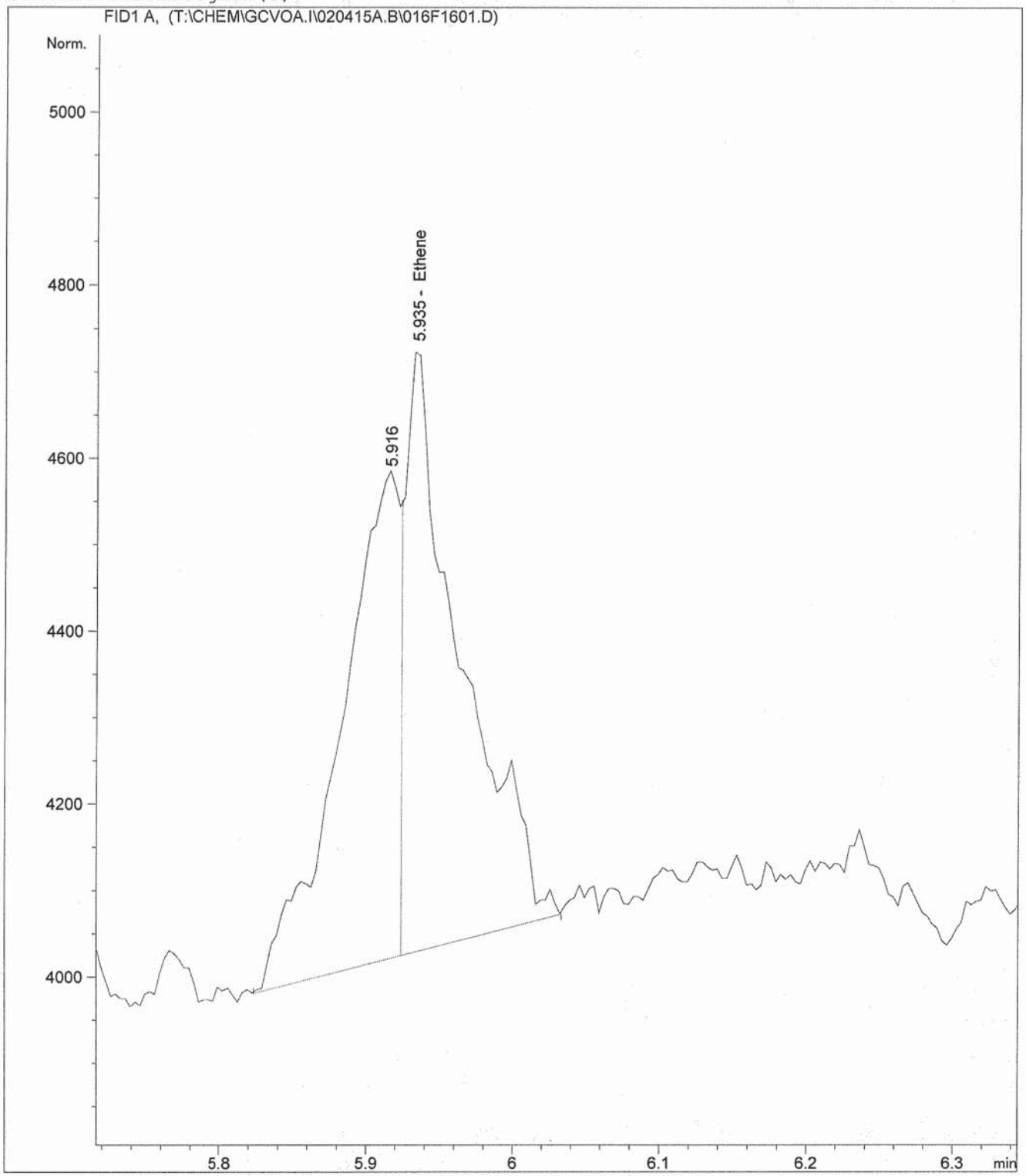
Current Chromatogram(s)



Print of window 38: Current Chromatogram(s)
Data File : T:\CHEM\GCVOA.I\020415A.B\016F1601.D
Sample Name : 1501116-02

Acq. Operator	:	Seq. Line	: 16
Acq. Instrument	: GCVOA	Location	: Vial 16
Injection Date	: 2/4/2015 2:57:40 PM	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\HPCHEM\1\METHODS\MEE-FAST.M		
Last changed	: 2/4/2015 11:03:36 AM		
Analysis Method	: T:\CHEM\GCVOA.I\020415A.B\113014MEE.M		
Last changed	: 2/6/2015 7:55:33 AM		
Additional Info	: Peak(s) manually integrated		

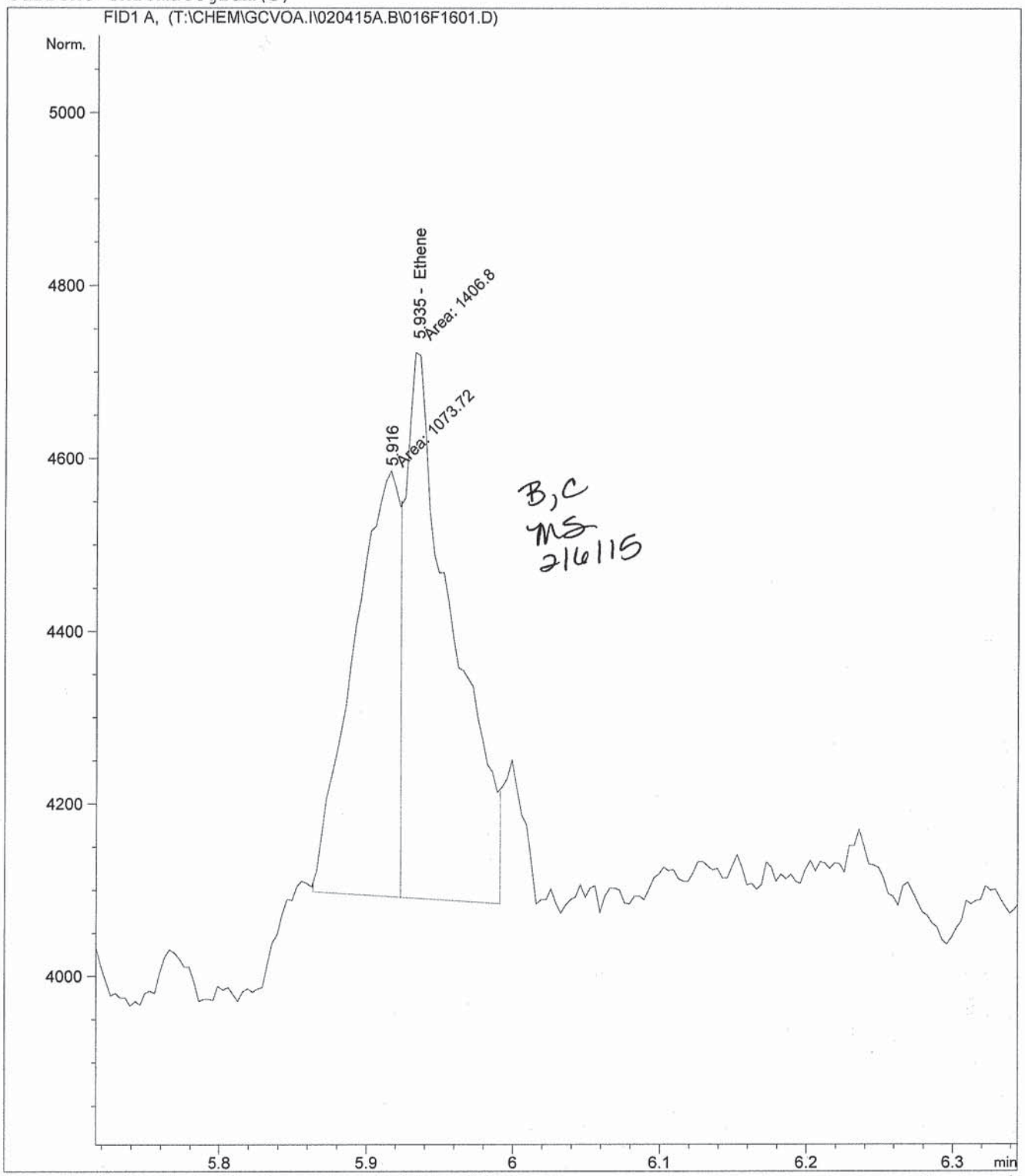
Current Chromatogram(s)



Print of window 38: Current Chromatogram(s)
Data File : T:\CHEM\GCVOA.I\020415A.B\016F1601.D
Sample Name : 1501116-02

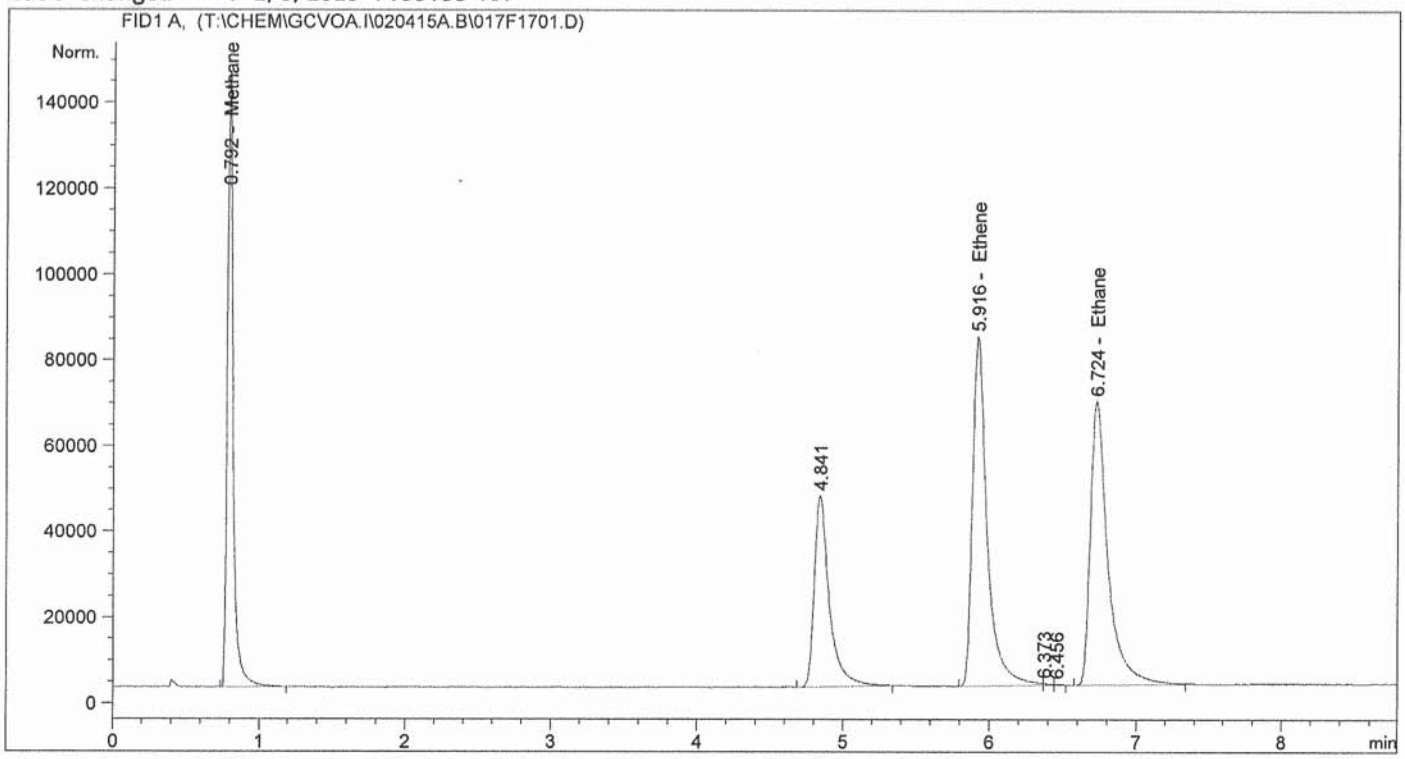
Acq. Operator	:	Seq. Line	: 16
Acq. Instrument	: GCVOA	Location	: Vial 16
Injection Date	: 2/4/2015 2:57:40 PM	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\HPCHEM\1\METHODS\MEE-FAST.M		
Last changed	: 2/4/2015 11:03:36 AM		
Analysis Method	: T:\CHEM\GCVOA.I\020415A.B\113014MEE.M		
Last changed	: 2/6/2015 7:55:33 AM		
Additional Info	: Peak(s) manually integrated		

Current Chromatogram(s)



Data File T:\CHEM\GCVOA.I\020415A.B\017F1701.D
Sample Name: SEQ-CCV2

```
======================================================================
Acq. Operator   :                              Seq. Line :  17
Acq. Instrument : GCVOA                        Location : Vial 17
Injection Date  : 2/4/2015 3:11:15 PM              Inj :   1
                                             Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
```




```
======================================================================
                    External Standard Report
======================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.792 BBA +  3.94075e5  2.51492e-6 9.91067e-1    Methane
  5.916 BV  +  5.67743e5  1.91160e-6    1.08530    Ethene
  6.724 BV  +  5.55950e5  1.81649e-6    1.00988    Ethane

Totals :                                3.08624

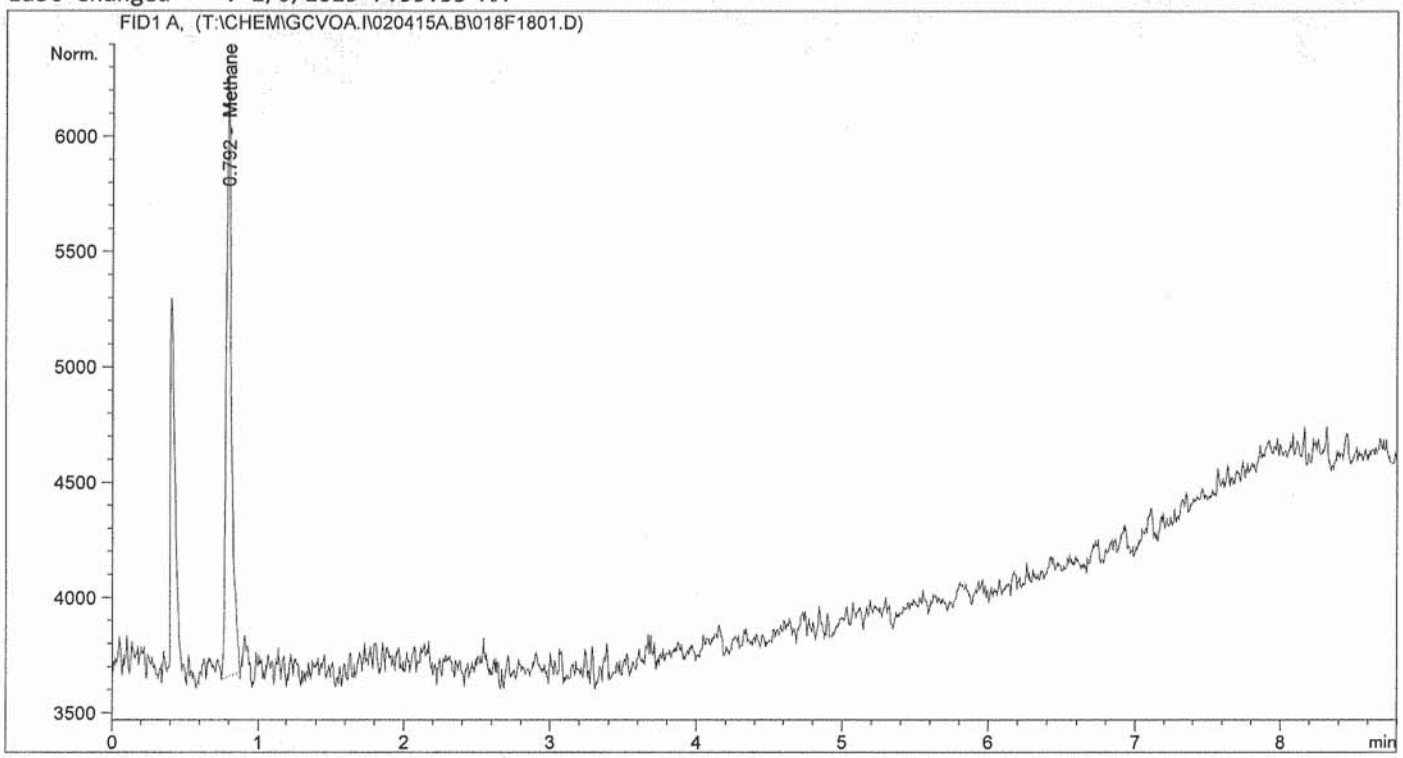

======================================================================
                        *** End of Report ***
```

MS 2/6/15

02/09/15

Data File T:\CHEM\GCVOA.I\020415A.B\018F1801.D
Sample Name: 1501116-03

```
================================================================================
Acq. Operator   :                                Seq. Line :  18
Acq. Instrument : GCVOA                           Location : Vial 18
Injection Date  : 2/4/2015 3:24:51 PM                 Inj :   1
                                                 Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                 [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.792 BB   +  6471.14014 4.87062e-8 3.15185e-4-   Methane
  5.921            -          -          -     -   Ethene
  6.727            -          -          -     -   Ethane

Totals :                               3.15185e-4

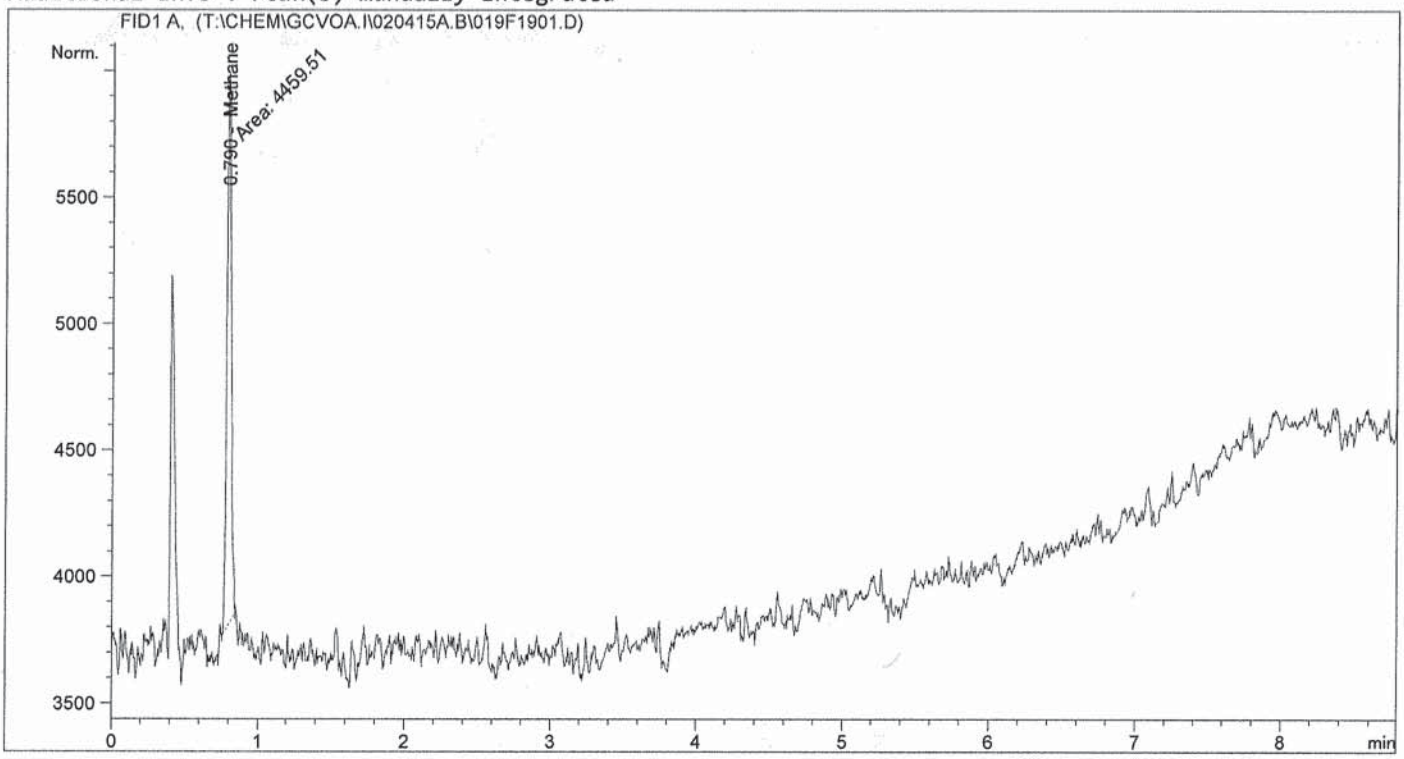

2 Warnings or Errors :
```

MS 2/6/15

02/09/15

Data File T:\CHEM\GCVOA.I\020415A.B\019F1901.D
Sample Name: 1501116-04

```
======================================================================
Acq. Operator   :                              Seq. Line :  19
Acq. Instrument : GCVOA                        Location : Vial 19
Injection Date  : 2/4/2015 3:38:24 PM              Inj :   1
                                             Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
Additional Info : Peak(s) manually integrated
```




```
======================================================================
                    External Standard Report
======================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs
```

MS 2/6/15 02/09/15

```
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                 [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.790 MM   +  4459.51221    0.00000    0.00000-   Methane
  5.921            -           -          -      -   Ethene
  6.727            -           -          -      -   Ethane

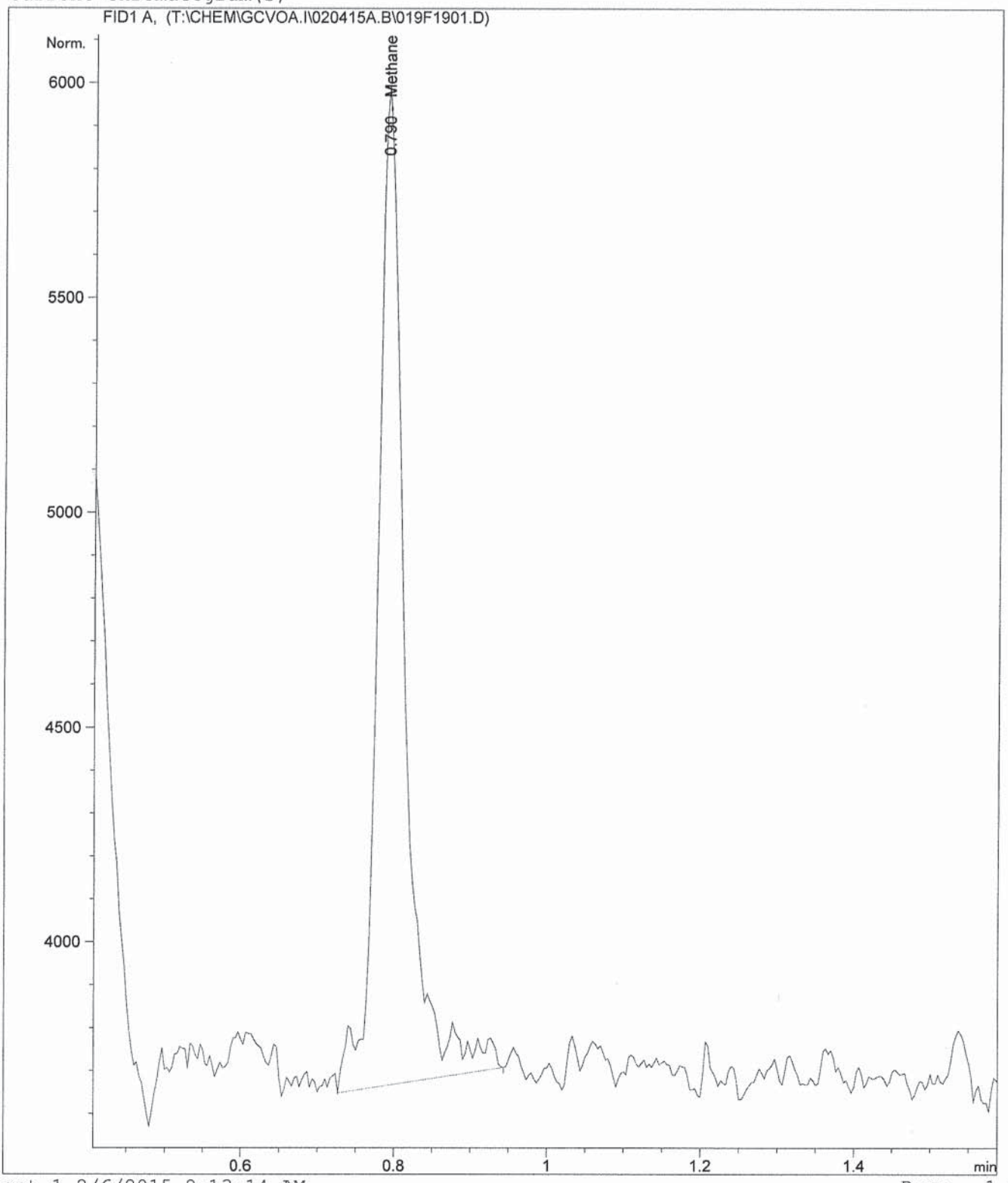
Totals :                                  0.00000


3 Warnings or Errors :
```

Print of window 38: Current Chromatogram(s)
Data File : T:\CHEM\GCVOA.I\020415A.B\019F1901.D
Sample Name : 1501116-04

Acq. Operator	:	Seq. Line	: 19
Acq. Instrument	: GCVOA	Location	: Vial 19
Injection Date	: 2/4/2015 3:38:24 PM	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\HPCHEM\1\METHODS\MEE-FAST.M		
Last changed	: 2/4/2015 11:03:36 AM		
Analysis Method	: T:\CHEM\GCVOA.I\020415A.B\113014MEE.M		
Last changed	: 2/6/2015 7:55:33 AM		

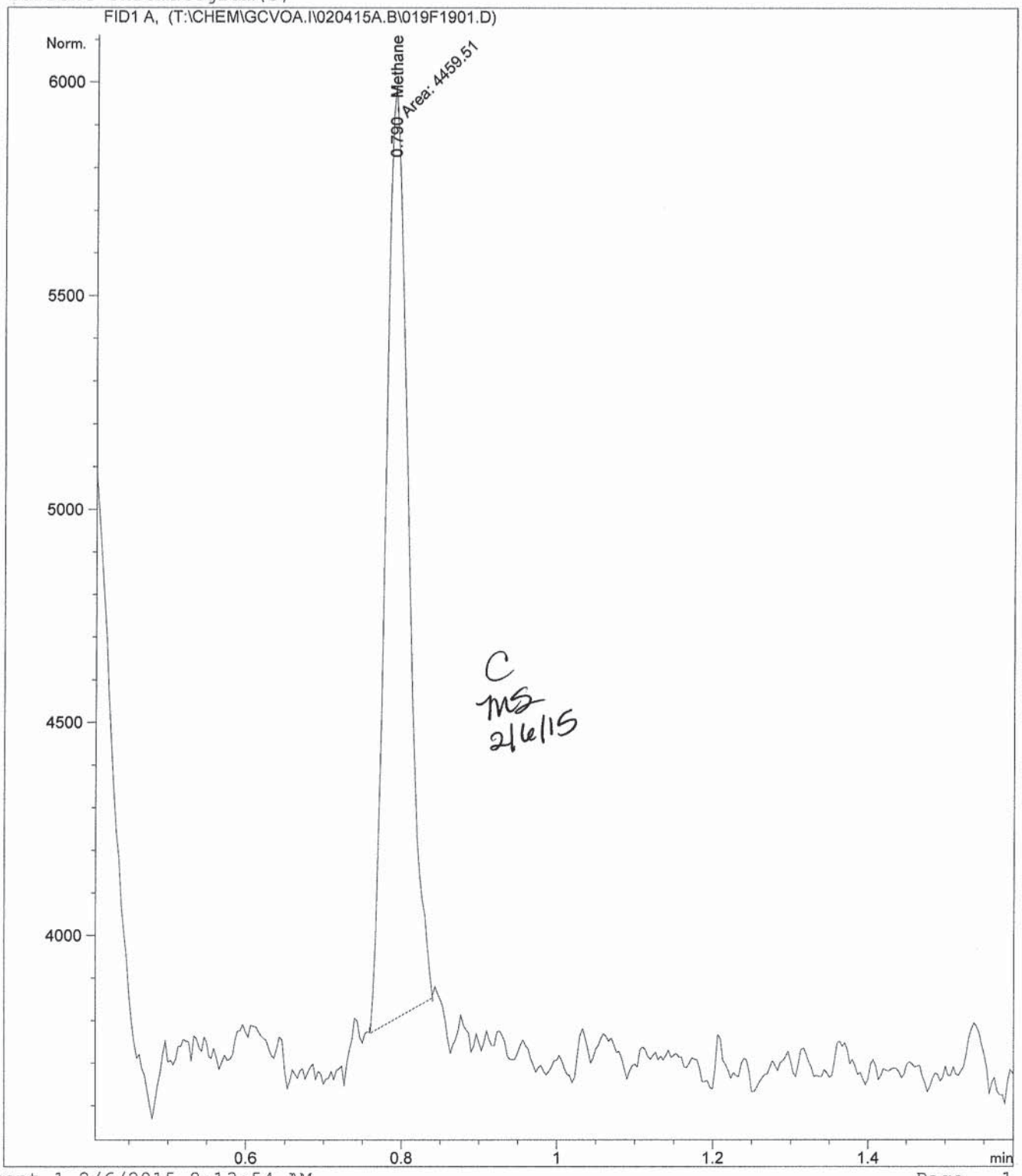
Current Chromatogram(s)



Print of window 38: Current Chromatogram(s)
Data File : T:\CHEM\GCVOA.I\020415A.B\019F1901.D
Sample Name : 1501116-04

Acq. Operator : Seq. Line : 19
Acq. Instrument : GCVOA Location : Vial 19
Injection Date : 2/4/2015 3:38:24 PM Inj : 1
Inj Volume : Manually
Acq. Method : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed : 2/6/2015 7:55:33 AM
Additional Info : Peak(s) manually integrated

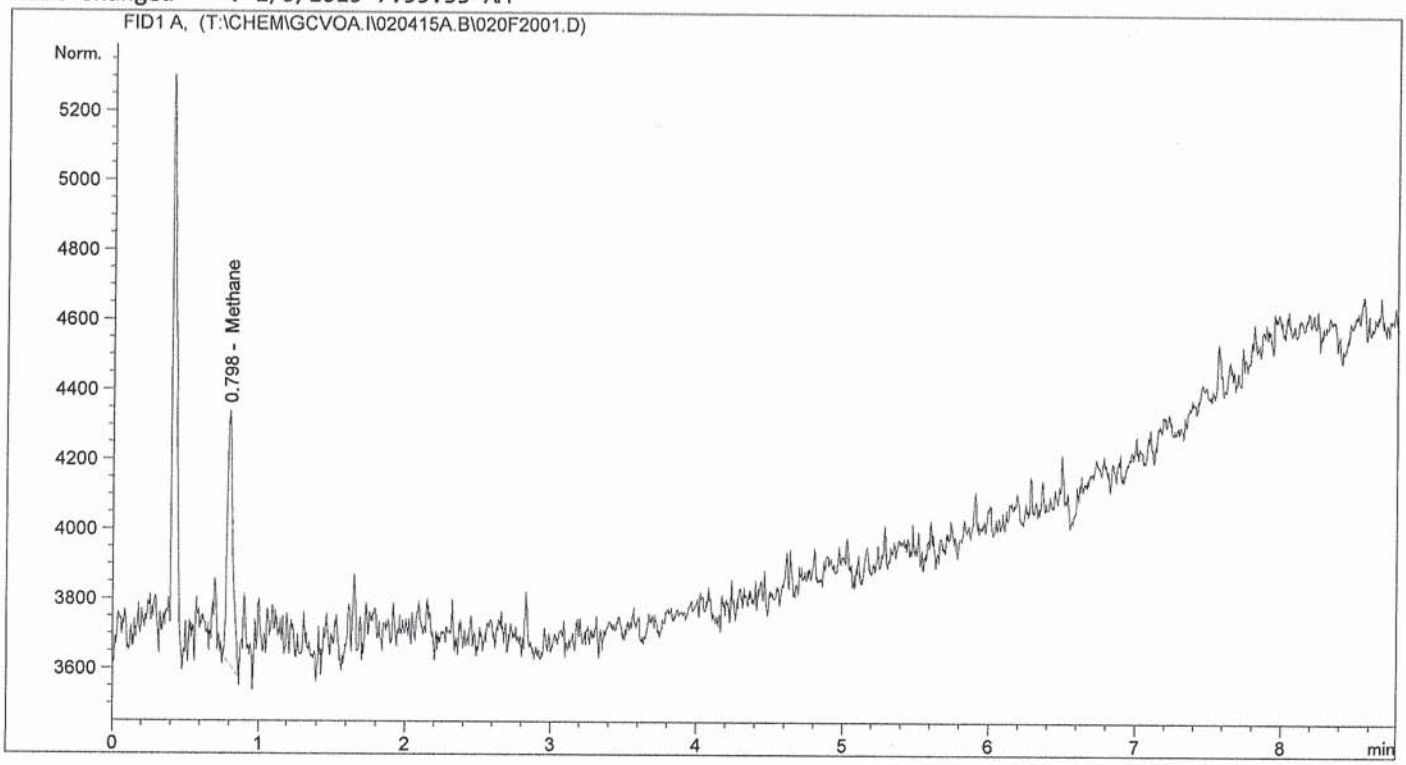
Current Chromatogram(s)



Instrument 1 2/6/2015 8:13:54 AM Page 1 of 1

Data File T:\CHEM\GCVOA.I\020415A.B\020F2001.D
Sample Name: 1501116-05

```
======================================================================
Acq. Operator   :                              Seq. Line :  20
Acq. Instrument : GCVOA                        Location : Vial 20
Injection Date  : 2/4/2015 3:51:57 PM              Inj :   1
                                             Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
```




```
======================================================================
                    External Standard Report
======================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.798 BB   +  1901.78027    0.00000    0.00000-   Methane
  5.921             -           -          -     -   Ethene
  6.727             -           -          -     -   Ethane

Totals :                                  0.00000


3 Warnings or Errors :
```

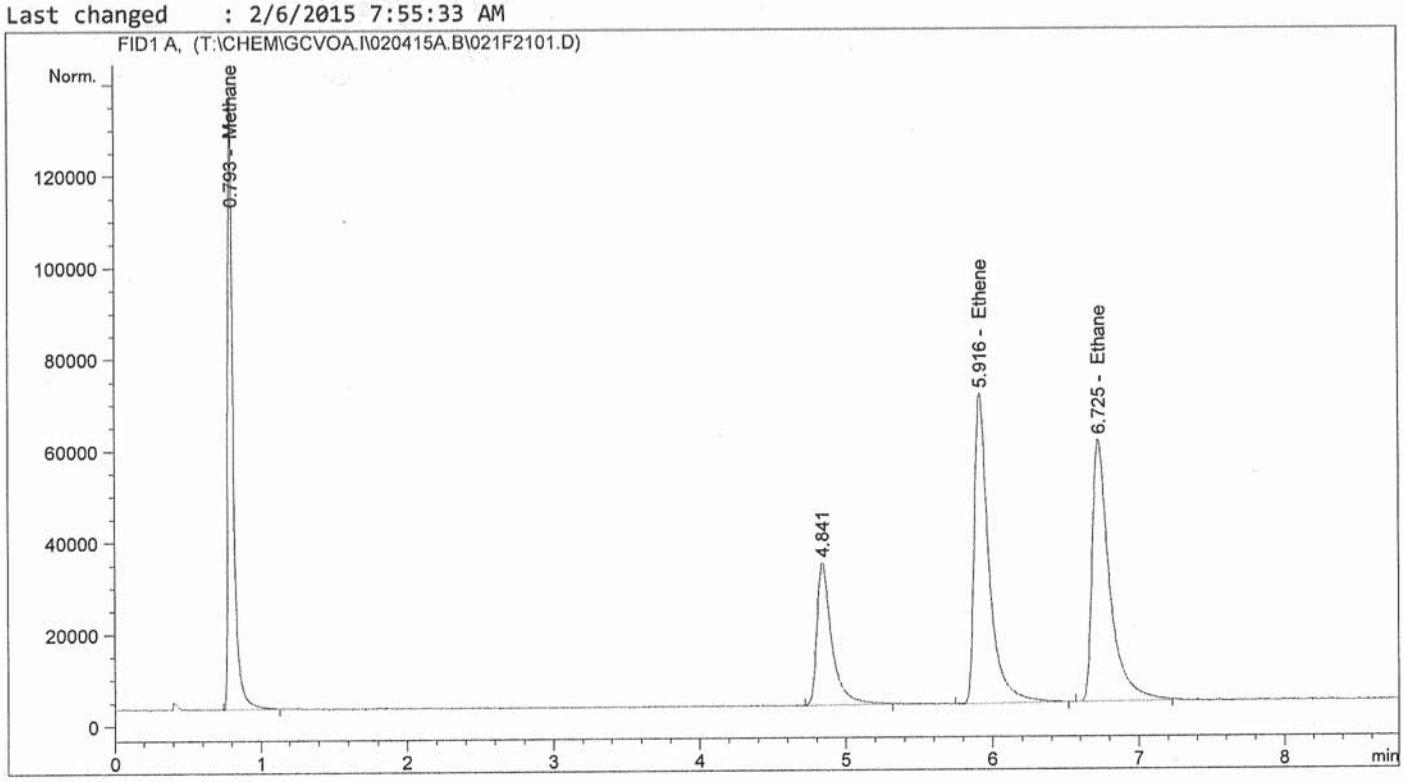
MS 2/6/15

02/09/15

Data File T:\CHEM\GCVOA.I\020415A.B\021F2101.D
Sample Name: 5B04002-MS2

```
==========================================================================
Acq. Operator   :                                  Seq. Line :  21
Acq. Instrument : GCVOA                            Location : Vial 21
Injection Date  : 2/4/2015 4:05:33 PM                  Inj :   1
                                                   Inj Volume : Manually

Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.793 BB   +  3.37461e5  2.47844e-6 8.36378e-1    Methane
  5.916 BV   +  4.70821e5  1.91160e-6 9.00022e-1    Ethene
  6.725 BV   +  4.73588e5  1.81649e-6 8.60266e-1    Ethane

Totals :                                 2.59667
```

Ethene: $\frac{470821}{523121.1} = 0.900022958$

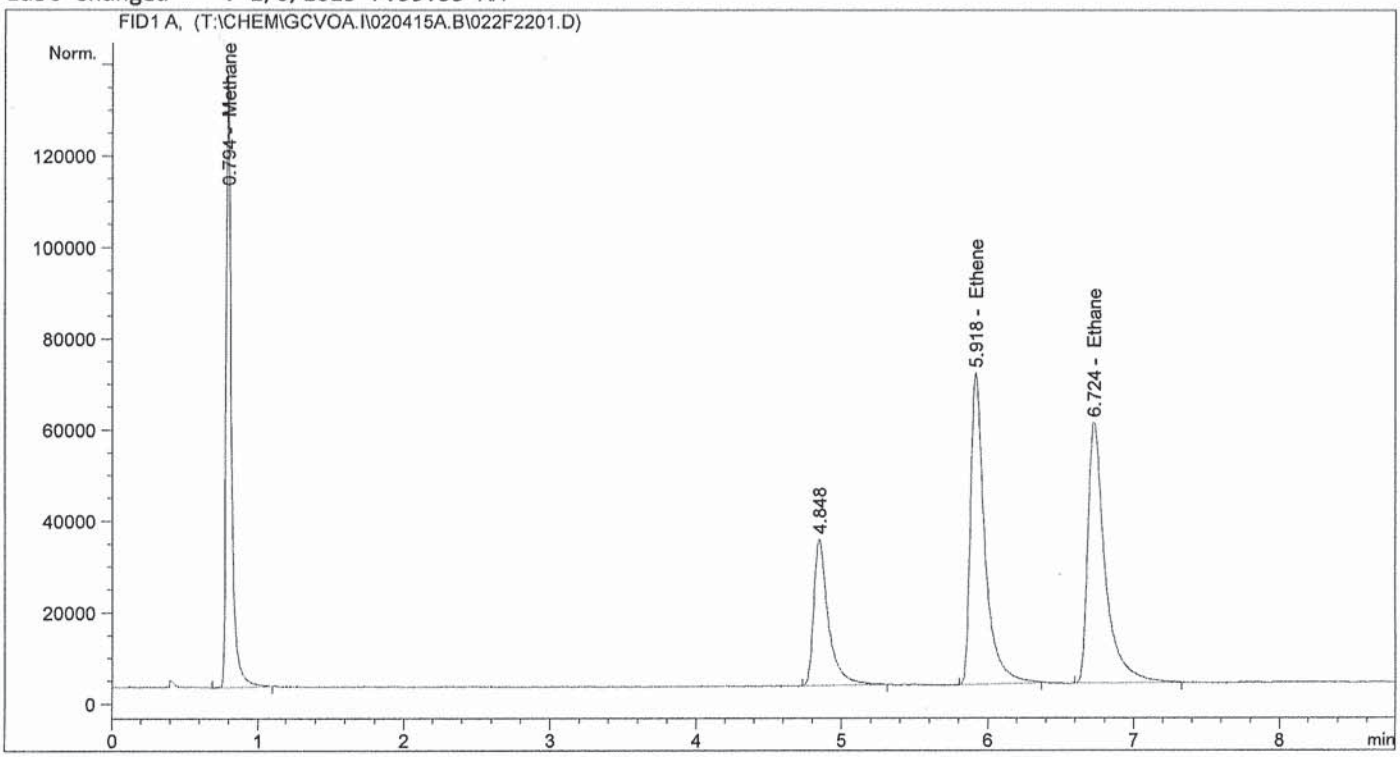
```
==========================================================================
                        *** End of Report ***
```

02/09/15

MS 2/6/15

Data File T:\CHEM\GCVOA.I\020415A.B\022F2201.D
Sample Name: 5B04002-MSD2

```
======================================================================
Acq. Operator   :                                Seq. Line :  22
Acq. Instrument : GCVOA                           Location : Vial 22
Injection Date  : 2/4/2015 4:19:09 PM                 Inj :   1
                                                 Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
```




```
======================================================================
                    External Standard Report
======================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                 [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.794 BB   +  3.39206e5  2.47958e-6 8.41087e-1    Methane
  5.918 BB   +  4.64286e5  1.91160e-6 8.87530e-1    Ethene
  6.724 BV   +  4.76252e5  1.81649e-6 8.65105e-1    Ethane

Totals :                                2.59372

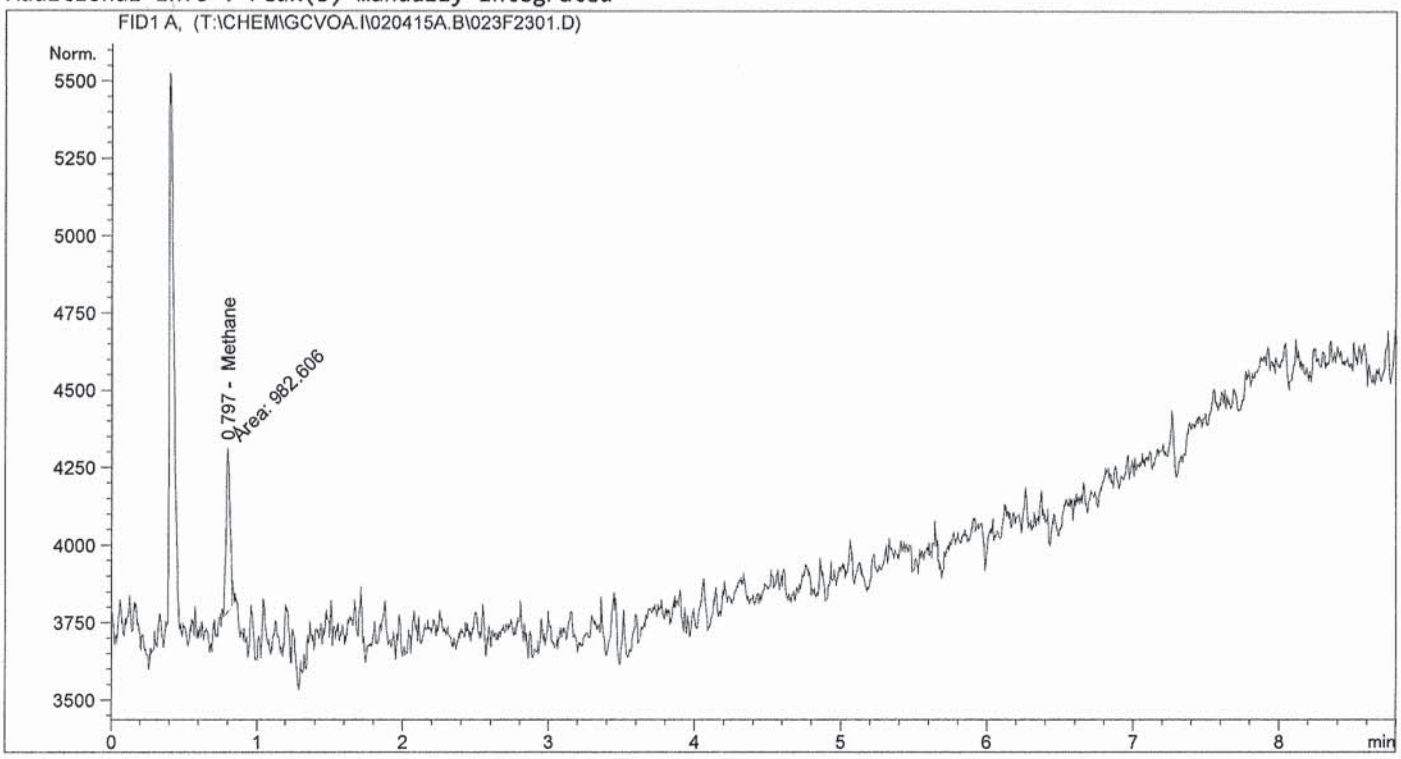
======================================================================
                        *** End of Report ***
```

02/09/15

MS 2/6/15

Data File T:\CHEM\GCVOA.I\020415A.B\023F2301.D
Sample Name: 1501116-06

```
======================================================================
Acq. Operator   :                                Seq. Line :  23
Acq. Instrument : GCVOA                           Location : Vial 23
Injection Date  : 2/4/2015 4:32:42 PM                 Inj :   1
                                                 Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
Additional Info : Peak(s) manually integrated
```




```
======================================================================
                      External Standard Report
======================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                 [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.797 MF  +   982.60583    0.00000    0.00000-   Methane
  5.921           -          -          -     -   Ethene
  6.727           -          -          -     -   Ethane

Totals :                                 0.00000


3 Warnings or Errors :
```

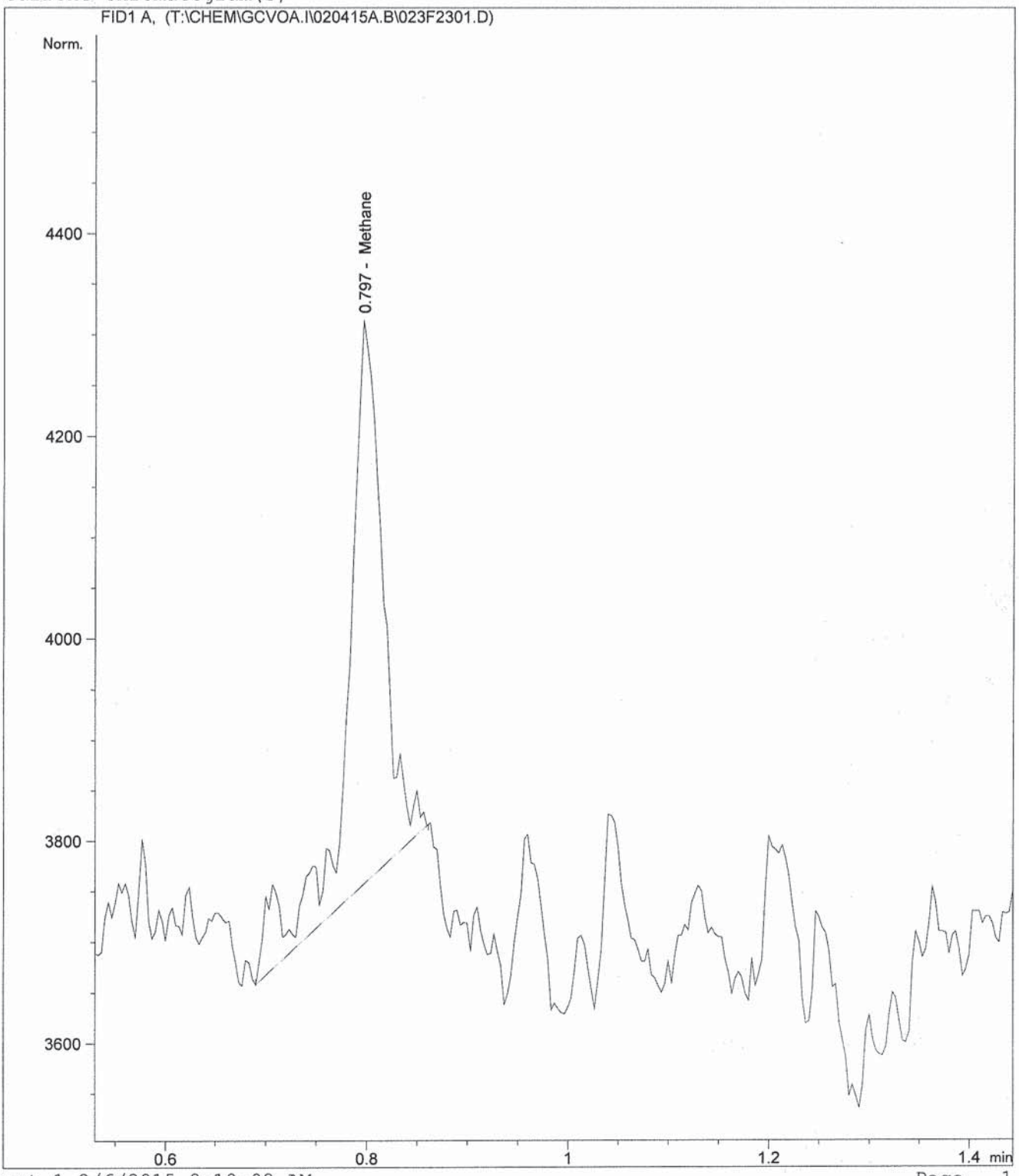
02/09/15

MS 2/6/15

Print of window 38: Current Chromatogram(s)
Data File : T:\CHEM\GCVOA.I\020415A.B\023F2301.D
Sample Name : 1501116-06

Acq. Operator	:	Seq. Line	: 23
Acq. Instrument	: GCVOA	Location	: Vial 23
Injection Date	: 2/4/2015 4:32:42 PM	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\HPCHEM\1\METHODS\MEE-FAST.M		
Last changed	: 2/4/2015 11:03:36 AM		
Analysis Method	: T:\CHEM\GCVOA.I\020415A.B\113014MEE.M		
Last changed	: 2/6/2015 7:55:33 AM		
Additional Info	: Peak(s) manually integrated		

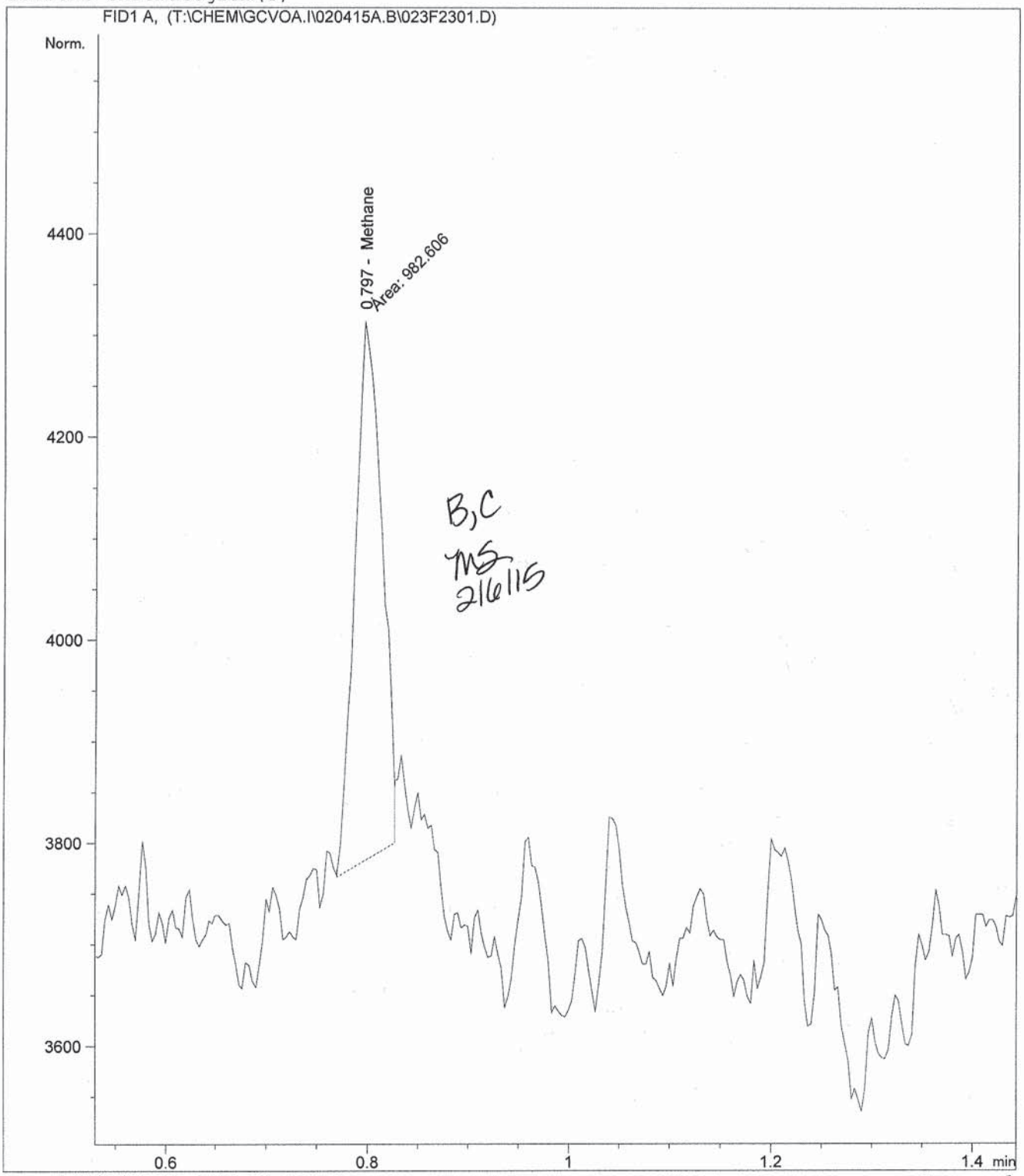
Current Chromatogram(s)



Print of window 38: Current Chromatogram(s)
Data File : T:\CHEM\GCVOA.I\020415A.B\023F2301.D
Sample Name : 1501116-06

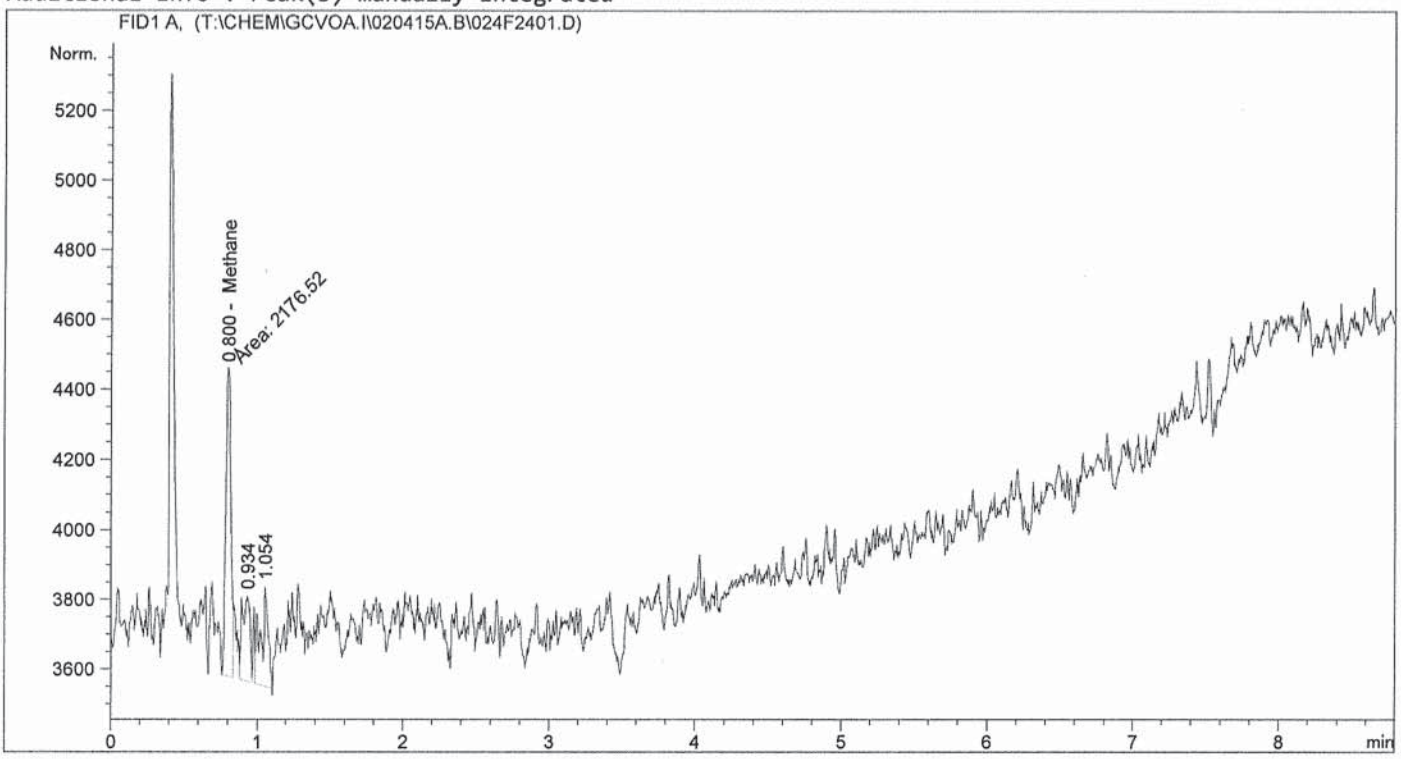
Acq. Operator : Seq. Line : 23
Acq. Instrument : GCVOA Location : Vial 23
Injection Date : 2/4/2015 4:32:42 PM Inj : 1
Inj Volume : Manually
Acq. Method : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed : 2/6/2015 7:55:33 AM
Additional Info : Peak(s) manually integrated

Current Chromatogram(s)



Data File T:\CHEM\GCVOA.I\020415A.B\024F2401.D
Sample Name: 1501116-07

```
======================================================================
Acq. Operator   :                                Seq. Line :  24
Acq. Instrument : GCVOA                           Location : Vial 24
Injection Date  : 2/4/2015 4:46:14 PM                 Inj :   1
                                                 Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
Additional Info : Peak(s) manually integrated
```




```
======================================================================
                    External Standard Report
======================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.800 MF   +  2176.51563    0.00000    0.00000-   Methane
  5.921            -          -          -     -   Ethene
  6.727            -          -          -     -   Ethane

Totals :                                 0.00000


3 Warnings or Errors :
```

02/09/15

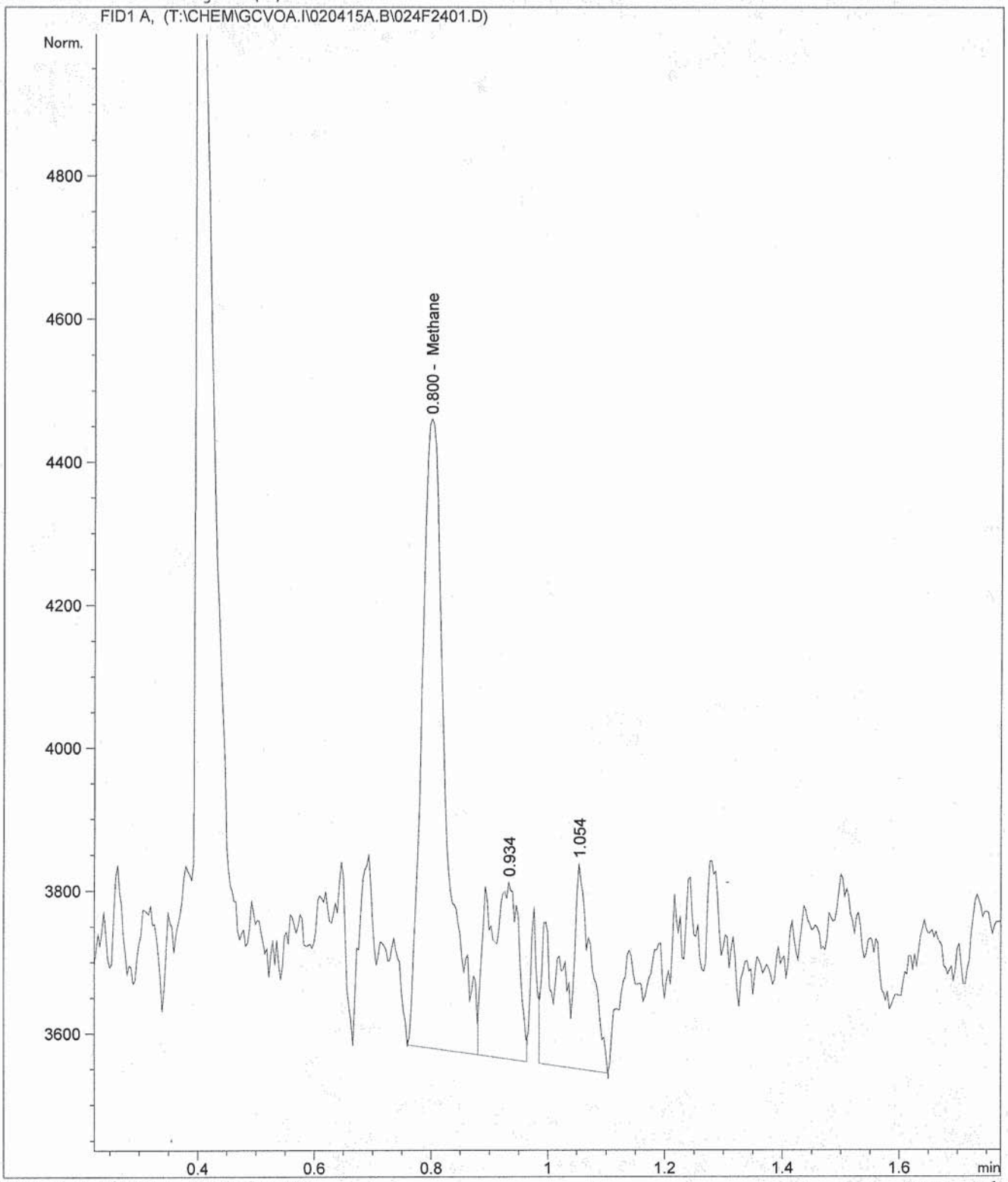
MS 2/6/15

Print of window 38: Current Chromatogram(s)
Data File : T:\CHEM\GCVOA.I\020415A.B\024F2401.D
Sample Name : 1501116-07

Acq. Operator : Seq. Line : 24
Acq. Instrument : GCVOA Location : Vial 24
Injection Date : 2/4/2015 4:46:14 PM Inj : 1
Inj Volume : Manually

Acq. Method : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed : 2/6/2015 7:55:33 AM

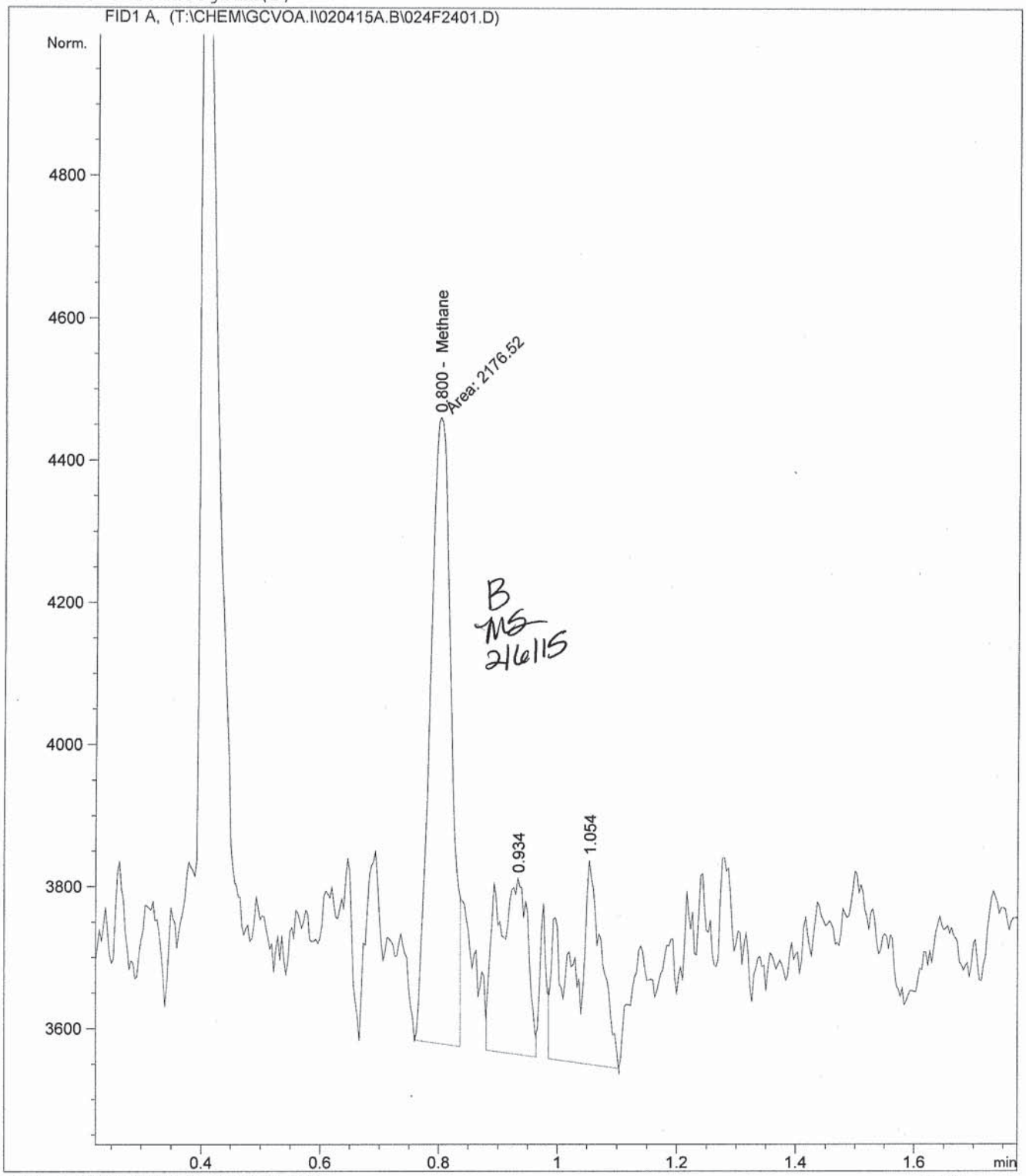
Current Chromatogram(s)



Print of window 38: Current Chromatogram(s)
Data File : T:\CHEM\GCVOA.I\020415A.B\024F2401.D
Sample Name : 1501116-07

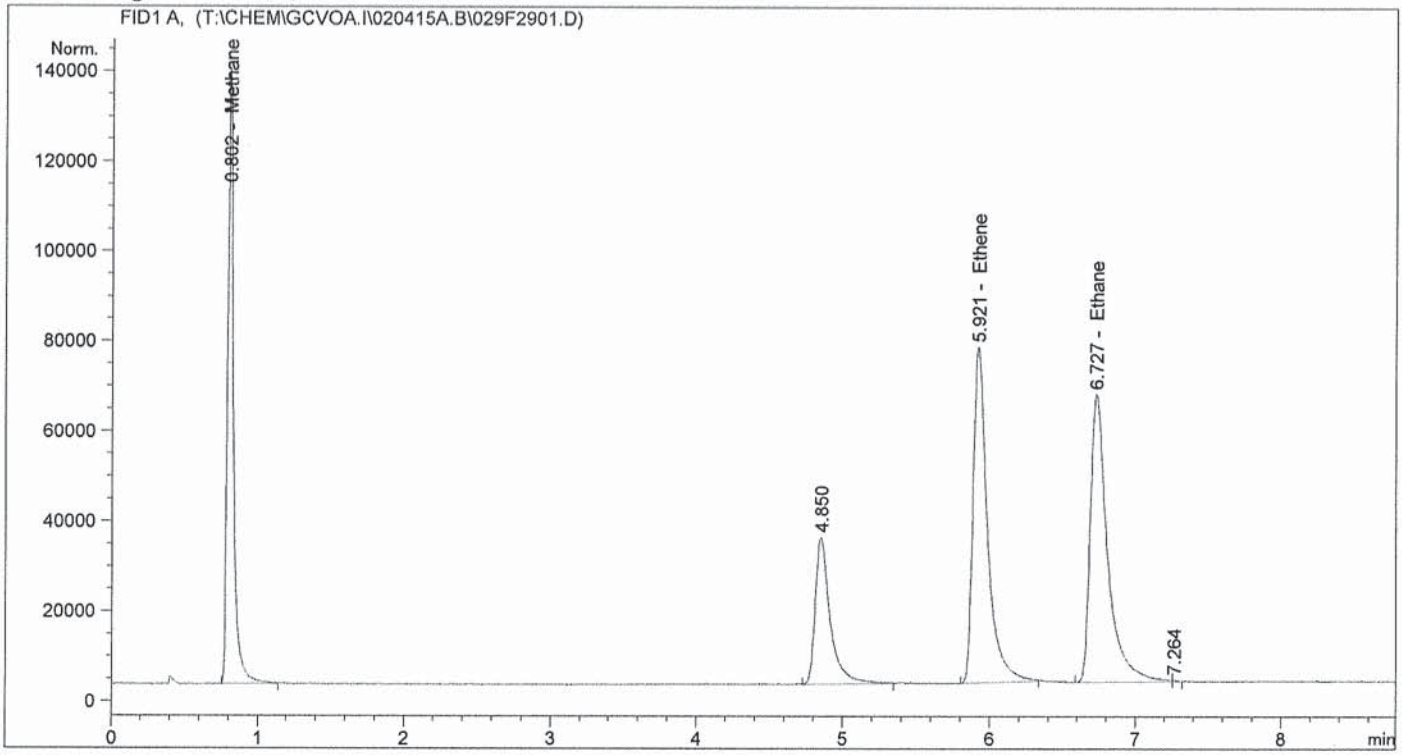
Acq. Operator	:	Seq. Line	: 24
Acq. Instrument	: GCVOA	Location	: Vial 24
Injection Date	: 2/4/2015 4:46:14 PM	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\HPCHEM\1\METHODS\MEE-FAST.M		
Last changed	: 2/4/2015 11:03:36 AM		
Analysis Method	: T:\CHEM\GCVOA.I\020415A.B\113014MEE.M		
Last changed	: 2/6/2015 7:55:33 AM		
Additional Info	: Peak(s) manually integrated		

Current Chromatogram(s)



Data File T:\CHEM\GCVOA.I\020415A.B\029F2901.D
Sample Name: SEQ-CCV3

```
==========================================================================
Acq. Operator   :                                  Seq. Line :  29
Acq. Instrument : GCVOA                             Location : Vial 29
Injection Date  : 2/4/2015 5:54:12 PM                    Inj :   1
                                                  Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.802 BB   +  3.80852e5  2.50644e-6 9.54581e-1    Methane
  5.921 BV   +  5.13049e5  1.91160e-6 9.80747e-1    Ethene
  6.727 BV   +  5.32920e5  1.81649e-6 9.68043e-1    Ethane

Totals :                                2.90337


==========================================================================
                        *** End of Report ***
```

02/09/15

MS 2/6/15

PREPARATION BENCH SHEET

5B04002

Empirical Laboratories, LLC **Printed: 2/9/2015 2:41:57PM**

Instrument:

Matrix: Water **Prepared using: GCLC - RSK175** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID		ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
1501102-01	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501102-02	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501102-04	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501102-05	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501104-01	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501104-02	J	VGC_RSK175_MEE	02/04/2015	15	15							MS/MSD;;
1501104-03	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501104-04	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501104-05	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501116-02	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501116-03	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501116-04	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501116-05	D	VGC_RSK175_MEE	02/04/2015	15	15							MS/MSD;MS/MSD;MS/MSD
1501116-06	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501116-07	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501124-03	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501124-04	D	VGC_RSK175_MEE	02/04/2015	15	15							;;

PREPARATION BENCH SHEET

5B04002

Empirical Laboratories, LLC **Printed: 2/9/2015 2:41:57PM**

Instrument:

Matrix: Water **Prepared using: GCLC - RSK175** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
1501124-05	D	VGC_RSK175_MEE	02/04/2015	15	15						;;
1501134-03	E	VGC_RSK175_MEE	02/04/2015	15	15						;;
5B04002-BLK1		QC	02/04/2015	15	15					NA	
5B04002-BS1		QC	02/04/2015	15	15	13K0238		500		NA	
5B04002-MS1		QC	02/04/2015	15	15	13K0238	1501104-02	500		NA	
5B04002-MS2		QC	02/04/2015	15	15	13K0238	1501116-05	500		NA	
5B04002-MSD1		QC	02/04/2015	15	15	13K0238	1501104-02	500		NA	
5B04002-MSD2		QC	02/04/2015	15	15	13K0238	1501116-05	500		NA	

Reagents Used:

Standard	Description

Data for Wet Chemistry Forms

Sample Extraction Data

Prep Method: WC_PREP_ANIONS_W-SW9056A

Lab Number [Field ID]	Batch	Nominal Initial/Final	Initial [mL]	Final [mL]	Dilution	% Solids	Notes	Date
1501116-02 [49MW02]	5A28014	5.00/5.00	5.00	5.00	1.00			01/28/15
1501116-03 [50MW02]	5A28014	5.00/5.00	5.00	5.00	1.00			01/28/15
1501116-04 [49TM01]	5A28014	5.00/5.00	5.00	5.00	1.00			01/28/15
1501116-05 [48MW3]	5A28014	5.00/5.00	5.00	5.00	1.00			01/28/15
1501116-06 [RB012714]	5A28014	5.00/5.00	5.00	5.00	1.00			01/28/15
1501116-07 [49TM02]	5A28014	5.00/5.00	5.00	5.00	1.00			01/28/15

Sample Extraction Data

Prep Method: pNone-SW9060A

Lab Number [Field ID]	Batch	Nominal Initial/Final	Initial [mL]	Final [mL]	Dilution	% Solids	Notes	Date
1501116-02 [49MW02]	5B05019	40.00/40.00	40.0	40.0	1.00			02/05/15
1501116-03 [50MW02]	5B05019	40.00/40.00	40.0	40.0	1.00			02/05/15
1501116-04 [49TM01]	5B05019	40.00/40.00	40.0	40.0	1.00			02/05/15
1501116-05 [48MW3]	5B05019	40.00/40.00	40.0	40.0	1.00			02/05/15
1501116-06 [RB012714]	5B05019	40.00/40.00	40.0	40.0	1.00			02/05/15
1501116-07 [49TM02]	5B05019	40.00/40.00	40.0	40.0	1.00			02/05/15

ANALYSIS DATA SHEET

49MW02

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
Sampled: 01/27/15 10:55

SDG: 1501116
Project: Radford AAP
Laboratory ID: 1501116-02
Received: 01/28/15 08:40

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
16887-00-6	Chloride	**3.45**	**0.170**	0.330	0.500	1		SW9056A	5A28014	01/28/15 13:14
14797-55-8	Nitrate as N	**0.0476**	**0.0330**	0.100	0.250	1	J	SW9056A	5A28014	01/28/15 13:14
14808-79-8	Sulfate as SO4	**26.6**	**0.330**	1.00	2.50	1		SW9056A	5A28014	01/28/15 13:14
7440-44-0	Total Organic Carbon AVG		1.25	2.50	3.00	1	U	SW9060A	5B05019	02/05/15 17:48

ANALYSIS DATA SHEET

50MW02

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
Sampled: 01/27/15 12:55

SDG: 1501116
Project: Radford AAP
Laboratory ID: 1501116-03
Received: 01/28/15 08:40

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
16887-00-6	Chloride	**7.27**	**0.170**	0.330	0.500	1		SW9056A	5A28014	01/28/15 13:32
14797-55-8	Nitrate as N	**2.06**	**0.0330**	0.100	0.250	1		SW9056A	5A28014	01/28/15 13:32
14808-79-8	Sulfate as SO4	**73.2**	**0.330**	1.00	2.50	1		SW9056A	5A28014	01/28/15 13:32
7440-44-0	Total Organic Carbon AVG		1.25	2.50	3.00	1	U	SW9060A	5B05019	02/05/15 18:11

ANALYSIS DATA SHEET

49TM01

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
Sampled: 01/27/15 12:55

SDG: 1501116
Project: Radford AAP
Laboratory ID: 1501116-04
Received: 01/28/15 08:40

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
16887-00-6	Chloride	**6.99**	**0.170**	0.330	0.500	1		SW9056A	5A28014	01/28/15 13:50
14797-55-8	Nitrate as N	**2.05**	**0.0330**	0.100	0.250	1		SW9056A	5A28014	01/28/15 13:50
14808-79-8	Sulfate as SO4	**73.0**	**0.330**	1.00	2.50	1		SW9056A	5A28014	01/28/15 13:50
7440-44-0	Total Organic Carbon AVG		1.25	2.50	3.00	1	U	SW9060A	5B05019	02/05/15 18:33

ANALYSIS DATA SHEET

48MW3

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
Sampled: 01/27/15 14:35

SDG: 1501116
Project: Radford AAP
Laboratory ID: 1501116-05
Received: 01/28/15 08:40

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
16887-00-6	Chloride	**2.22**	**0.170**	0.330	0.500	1		SW9056A	5A28014	01/28/15 14:08
14797-55-8	Nitrate as N	**6.40**	**0.0330**	0.100	0.250	1		SW9056A	5A28014	01/28/15 14:08
14808-79-8	Sulfate as SO4	**29.8**	**0.330**	1.00	2.50	1		SW9056A	5A28014	01/28/15 14:08
7440-44-0	Total Organic Carbon AVG		1.25	2.50	3.00	1	U	SW9060A	5B05019	02/05/15 18:56

ANALYSIS DATA SHEET

RB012714

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
Sampled: 01/27/15 15:15

SDG: 1501116
Project: Radford AAP
Laboratory ID: 1501116-06
Received: 01/28/15 08:40

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
16887-00-6	Chloride		0.170	0.330	0.500	1	U	SW9056A	5A28014	01/28/15 15:19
14797-55-8	Nitrate as N		0.0330	0.100	0.250	1	U	SW9056A	5A28014	01/28/15 15:19
14808-79-8	Sulfate as SO4		0.330	1.00	2.50	1	U	SW9056A	5A28014	01/28/15 15:19
7440-44-0	Total Organic Carbon AVG		1.25	2.50	3.00	1	U	SW9060A	5B05019	02/05/15 20:19

ANALYSIS DATA SHEET

49TM02

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
Sampled: 01/27/15 14:35

SDG: 1501116
Project: Radford AAP
Laboratory ID: 1501116-07
Received: 01/28/15 08:40

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
16887-00-6	Chloride	**2.25**	**0.170**	0.330	0.500	1		SW9056A	5A28014	01/28/15 15:37
14797-55-8	Nitrate as N	**6.44**	**0.0330**	0.100	0.250	1		SW9056A	5A28014	01/28/15 15:37
14808-79-8	Sulfate as SO4	**30.0**	**0.330**	1.00	2.50	1		SW9056A	5A28014	01/28/15 15:37
7440-44-0	Total Organic Carbon AVG		1.25	2.50	3.00	1	U	SW9060A	5B05019	02/05/15 20:41

ANALYSIS DATA SHEET

Blank

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Matrix: Water
Laboratory ID: 5A28014-BLK1
% Solids:

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
16887-00-6	Chloride	ND	0.170	0.330	0.500	1	U	SW9056A	5A28014	01/28/15 12:39
14797-55-8	Nitrate as N	ND	0.0330	0.100	0.250	1	U	SW9056A	5A28014	01/28/15 12:39
14808-79-8	Sulfate as SO4	ND	0.330	1.00	2.50	1	U	SW9056A	5A28014	01/28/15 12:39

ANALYSIS DATA SHEET

LCS

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Matrix: Water
Laboratory ID: 5A28014-BS1
% Solids:

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
16887-00-6	Chloride	**4.533**	**0.170**	0.330	0.500	1		SW9056A	5A28014	01/28/15 16:31
14797-55-8	Nitrate as N	**3.023**	**0.0330**	0.100	0.250	1		SW9056A	5A28014	01/28/15 16:31
14808-79-8	Sulfate as SO4	**21.82**	**0.330**	1.00	2.50	1		SW9056A	5A28014	01/28/15 16:31

ANALYSIS DATA SHEET

Duplicate

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
% Solids: 0.00

SDG: 1501116
Project: Radford AAP
Laboratory ID: 5A28014-DUP1

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
16887-00-6	Chloride	**2.252**	**0.170**	0.330	0.500	1		SW9056A	5A28014	01/28/15 15:01
14797-55-8	Nitrate as N	**6.374**	**0.0330**	0.100	0.250	1		SW9056A	5A28014	01/28/15 15:01
14808-79-8	Sulfate as SO4	**29.71**	**0.330**	1.00	2.50	1		SW9056A	5A28014	01/28/15 15:01

ANALYSIS DATA SHEET

Matrix Spike

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
% Solids: 0.00

SDG: 1501116
Project: Radford AAP
Laboratory ID: 5A28014-MS1

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
16887-00-6	Chloride	**30.65**	**0.189**	0.367	0.556	1		SW9056A	5A28014	01/28/15 14:26
14797-55-8	Nitrate as N	**9.197**	**0.0367**	0.111	0.278	1		SW9056A	5A28014	01/28/15 14:26
14808-79-8	Sulfate as SO4	**59.08**	**0.367**	1.11	2.78	1		SW9056A	5A28014	01/28/15 14:26

ANALYSIS DATA SHEET

Matrix Spike Dup

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Matrix: Water
Laboratory ID: 5A28014-MSD1
% Solids: 0.00

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
16887-00-6	Chloride	**30.75**	**0.189**	0.367	0.556	1		SW9056A	5A28014	01/28/15 14:44
14797-55-8	Nitrate as N	**9.218**	**0.0367**	0.111	0.278	1		SW9056A	5A28014	01/28/15 14:44
14808-79-8	Sulfate as SO4	**59.19**	**0.367**	1.11	2.78	1		SW9056A	5A28014	01/28/15 14:44

ANALYSIS DATA SHEET

Blank

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Matrix: Water
Laboratory ID: 5B05019-BLK1
% Solids:

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-44-0	Total Organic Carbon AVG	ND	1.25	2.50	3.00	1	U	SW9060A	5B05019	02/05/15 16:51

ANALYSIS DATA SHEET

LCS

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
% Solids:

SDG: 1501116
Project: Radford AAP
Laboratory ID: 5B05019-BS1

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-44-0	Total Organic Carbon AVG	**27.87**	**1.25**	2.50	3.00	1		SW9060A	5B05019	02/05/15 17:22

ANALYSIS DATA SHEET

Matrix Spike

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Matrix: Water
Laboratory ID: 5B05019-MS1
% Solids: 0.00

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-44-0	Total Organic Carbon AVG	**16.44**	**1.25**	2.50	3.00	1		SW9060A	5B05019	02/05/15 19:24

ANALYSIS DATA SHEET

Matrix Spike Dup

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Matrix: Water
Laboratory ID: 5B05019-MSD1
% Solids: 0.00

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-44-0	Total Organic Carbon AVG	**15.80**	**1.25**	2.50	3.00	1		SW9060A	5B05019	02/05/15 19:54

INITIAL AND CONTINUING CALIBRATION CHECK

SW9056A

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Instrument ID: WC-IC2

SDG: 1501116
Project: Radford AAP
Calibration: 4351002
Sequence: 4L35114

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
4L35114-ICV1	Chloride	4.200	4.198	100	mg/L	+/- 10.00%
	Nitrate as N	3.164	3.141	99.3	mg/L	+/- 10.00%
	Sulfate as SO4	21.00	22.77	108	mg/L	+/- 10.00%

INITIAL AND CONTINUING CALIBRATION CHECK

SW9056A

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Instrument ID: WC-IC2

SDG: 1501116
Project: Radford AAP
Calibration: 4351002
Sequence: 5B03426

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
5B03426-CCV1	Chloride	25.00	25.77	103	mg/L	+/- 10.00%
	Nitrate as N	2.500	2.496	99.8	mg/L	+/- 10.00%
	Sulfate as SO4	25.00	26.49	106	mg/L	+/- 10.00%
5B03426-CCV2	Chloride	25.00	26.03	104	mg/L	+/- 10.00%
	Nitrate as N	2.500	2.504	100	mg/L	+/- 10.00%
	Sulfate as SO4	25.00	26.38	106	mg/L	+/- 10.00%
5B03426-CCV3	Chloride	25.00	26.28	105	mg/L	+/- 10.00%
	Nitrate as N	2.500	2.522	101	mg/L	+/- 10.00%
	Sulfate as SO4	25.00	26.54	106	mg/L	+/- 10.00%

INITIAL AND CONTINUING CALIBRATION CHECK

SW9060A

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Instrument ID: WC-TOC1

SDG: 1501116
Project: Radford AAP
Calibration: 5023004
Sequence: 5B04116

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
5B04116-CCV1	Total Organic Carbon AVG	25.00	28.31	113	mg/L	+/- 20.00%
5B04116-CCV2	Total Organic Carbon AVG	50.00	57.11	114	mg/L	+/- 20.00%

CRDL STANDARD

SW9056A

Laboratory: Empirical Laboratories, LLC

SDG: 1501116

Client: CB&I

Project: Radford AAP

Instrument ID: WC-IC2

Calibration: 4351002

Sequence: 5B03426

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
5B03426-CRL1	Chloride	0.5000	0.6217	124	mg/L	50 - 150
	Nitrate as N	0.05000	0.04440	88.8	mg/L	50 - 150
	Sulfate as SO4	0.5000	0.5658	113	mg/L	50 - 150

METHOD BLANKS
SW9056A

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Batch: 5A28014

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
5A28014-BLK1	Chloride	0.0599	0.170	0.500	mg/L	U	SW9056A
	Nitrate as N	0.00310	0.0330	0.250	mg/L	U	SW9056A
	Sulfate as SO4	0.00740	0.330	2.50	mg/L	U	SW9056A

METHOD BLANKS

SW9060A

Laboratory: Empirical Laboratories, LLC

SDG: 1501116

Client: CB&I

Project: Radford AAP

Batch: 5B05019

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
5B05019-BLK1	Total Organic Carbon AVG	0.118	1.25	3.00	mg/L	U	SW9060A

BLANKS
SW9056A

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Sequence: 5B03426
Calibration: 4351002
Instrument ID: WC-IC2

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
5B03426-CCB1	Chloride	0.0194	0.170	0.500	mg/L	U	SW9056A
	Nitrate as N	0.00120	0.0330	0.250	mg/L	U	SW9056A
	Sulfate as SO4	0.0204	0.330	2.50	mg/L	U	SW9056A
5B03426-CCB2	Chloride	0.0209	0.170	0.500	mg/L	U	SW9056A
	Nitrate as N	0.00340	0.0330	0.250	mg/L	U	SW9056A
	Sulfate as SO4	0.0256	0.330	2.50	mg/L	U	SW9056A
5B03426-CCB3	Chloride	0.0392	0.170	0.500	mg/L	U	SW9056A
	Nitrate as N	0.00410	0.0330	0.250	mg/L	U	SW9056A
	Sulfate as SO4	0.0252	0.330	2.50	mg/L	U	SW9056A

BLANKS
SW9060A

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Sequence: 5B04116
Calibration: 5023004
Instrument ID: WC-TOC1

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
5B04116-CCB1	Total Organic Carbon AVG	0.142	1.25	3.00	mg/L	U	SW9060A
5B04116-CCB2	Total Organic Carbon AVG	0.126	1.25	3.00	mg/L	U	SW9060A

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

SW9056A

48MW3

Laboratory: Empirical Laboratories, LLC

SDG: 1501116

Client: CB&I

Project: Radford AAP

Matrix: Water

Batch: 5A28014

% Solids:

Source Sample Name: **1501116-05**

ANALYTE	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC.	Q	QC LIMITS REC.
Chloride	27.78	2.220	30.65	102		80 - 120
Nitrate as N	2.778	6.398	9.197	101		80 - 120
Sulfate as SO4	27.78	29.84	59.08	105		80 - 120

ANALYTE	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC. #	% RPD	Q	QC LIMITS RPD	QC LIMITS REC.
Chloride	27.78	30.75	103	0.317		15	80 - 120
Nitrate as N	2.778	9.218	102	0.224		15	80 - 120
Sulfate as SO4	27.78	59.19	106	0.185		15	80 - 120

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

SW9060A

48MW3

Laboratory: Empirical Laboratories, LLC

SDG: 1501116

Client: CB&I

Project: Radford AAP

Matrix: Water

Batch: 5B05019

% Solids:

Source Sample Name: **1501116-05**

ANALYTE	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC.	Q	QC LIMITS REC.
Total Organic Carbon AVG	15.00	ND	16.44	110		75 - 125

ANALYTE	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC. #	% RPD	Q	QC LIMITS RPD	QC LIMITS REC.
Total Organic Carbon AVG	15.00	15.80	105	3.97		20	75 - 125

DUPLICATES

48MW3

SW9056A

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Matrix: Water
Laboratory ID: 5A28014-DUP1
Batch: 5A28014
Lab Source ID: 1501116-05
Preparation: WC_PREP_ANIONS_W
Initial/Final: 5 mL / 5 mL
Source Sample Name: 48MW3
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/L)	DUPLICATE CONCENTRATION (mg/L)	RPD %	Q	METHOD
Chloride	10	2.22	2.252	1.45		SW9056A
Nitrate as N	10	6.40	6.374	0.385		SW9056A
Sulfate as SO4	10	29.8	29.71	0.448		SW9056A

LCS / LCS DUPLICATE RECOVERY

SW9056A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501116
Client:	CB&I	Project:	Radford AAP
Matrix:	Water		
Batch:	5A28014	Laboratory ID:	5A28014-BS1
Preparation:	WC_PREP_ANIONS_W	Initial/Final:	5 mL / 5 mL

ANALYTE	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC.	QC LIMITS REC.
Chloride	4.200	4.533	108	80 - 120
Nitrate as N	3.164	3.023	95.5	80 - 120
Sulfate as SO4	21.00	21.82	104	80 - 120

LCS / LCS DUPLICATE RECOVERY

SW9060A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501116
Client:	CB&I	Project:	Radford AAP
Matrix:	Water		
Batch:	5B05019	Laboratory ID:	5B05019-BS1
Preparation:	pNone	Initial/Final:	40 mL / 40 mL

ANALYTE	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC.	QC LIMITS REC.
Total Organic Carbon AVG	25.00	27.87	111	80 - 120

PREPARATION BATCH SUMMARY

SW9056A

Laboratory: Empirical Laboratories, LLC SDG: 1501116

Client: CB&I Project: Radford AAP

Batch: 5A28014 Batch Matrix: Water Preparation: WC_PREP_ANIONS_W

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
49MW02	1501116-02	01/28/15 10:37	5.00	5.00
50MW02	1501116-03	01/28/15 10:37	5.00	5.00
49TM01	1501116-04	01/28/15 10:37	5.00	5.00
48MW3	1501116-05	01/28/15 10:37	5.00	5.00
RB012714	1501116-06	01/28/15 10:37	5.00	5.00
49TM02	1501116-07	01/28/15 10:37	5.00	5.00
Blank	5A28014-BLK1	01/28/15 10:37	5.00	5.00
LCS	5A28014-BS1	01/28/15 10:37	5.00	5.00
48MW3	5A28014-DUP1	01/28/15 10:37	5.00	5.00
48MW3	5A28014-MS1	01/28/15 10:37	22.50	25.00
48MW3	5A28014-MSD1	01/28/15 10:37	22.50	25.00

PREPARATION BATCH SUMMARY

SW9060A

Laboratory: Empirical Laboratories, LLC SDG: 1501116

Client: CB&I Project: Radford AAP

Batch: 5B05019 Batch Matrix: Water Preparation: pNone

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
49MW02	1501116-02	02/05/15 14:56	40.00	40.00
50MW02	1501116-03	02/05/15 14:56	40.00	40.00
49TM01	1501116-04	02/05/15 14:56	40.00	40.00
48MW3	1501116-05	02/05/15 14:56	40.00	40.00
RB012714	1501116-06	02/05/15 14:56	40.00	40.00
49TM02	1501116-07	02/05/15 14:56	40.00	40.00
Blank	5B05019-BLK1	02/05/15 14:56	40.00	40.00
LCS	5B05019-BS1	02/05/15 14:56	40.00	40.00
48MW3	5B05019-MS1	02/05/15 14:56	40.00	40.00
48MW3	5B05019-MSD1	02/05/15 14:56	40.00	40.00

ANALYSIS SEQUENCE SUMMARY

SW9056A

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Sequence: 4L35114
Instrument: WC-IC2
Calibration: 4351002

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	4L35114-CAL1	SEQ-CAL1_Integration	12/16/14 09:47
Cal Standard	4L35114-CAL2	SEQ-CAL2_Integration	12/16/14 10:05
Cal Standard	4L35114-CAL3	SEQ-CAL3_Integration	12/16/14 10:23
Cal Standard	4L35114-CAL4	SEQ-CAL4_Integration	12/16/14 10:41
Cal Standard	4L35114-CAL5	SEQ-CAL5_Integration	12/16/14 10:59
Cal Standard	4L35114-CAL6	SEQ-CAL6_Integration	12/16/14 11:16
Cal Standard	4L35114-CAL7	SEQ-CAL7_Integration	12/16/14 11:34
Cal Standard	4L35114-CAL8	SEQ-CAL8_Integration	12/16/14 11:52
Initial Cal Check	4L35114-ICV1	SEQ-ICV1_Integration	12/16/14 13:43

ANALYSIS SEQUENCE SUMMARY

SW9056A

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Sequence: 5B03426
Instrument: WC-IC2
Calibration: 4351002

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	5B03426-CCV1	SEQ-CCV1_Integration	01/28/15 11:10
Calibration Blank	5B03426-CCB1	SEQ-CCB1_Integration	01/28/15 11:27
Instrument RL Check	5B03426-CRL1	SEQ-CRL1_Integration	01/28/15 11:45
Blank	5A28014-BLK1	5A28014-BLK1_Integration	01/28/15 12:39
49MW02	1501116-02	1501116-02_Integration	01/28/15 13:14
50MW02	1501116-03	1501116-03_Integration	01/28/15 13:32
49TM01	1501116-04	1501116-04_Integration	01/28/15 13:50
48MW3	1501116-05	1501116-05_Integration	01/28/15 14:08
48MW3	5A28014-MS1	5A28014-MS1_Integration	01/28/15 14:26
48MW3	5A28014-MSD1	5A28014-MSD1_Integration	01/28/15 14:44
48MW3	5A28014-DUP1	5A28014-DUP1_Integration	01/28/15 15:01
RB012714	1501116-06	1501116-06_Integration	01/28/15 15:19
49TM02	1501116-07	1501116-07_Integration	01/28/15 15:37
Calibration Check	5B03426-CCV2	SEQ-CCV2_Integration	01/28/15 15:55
Calibration Blank	5B03426-CCB2	SEQ-CCB2_Integration	01/28/15 16:13
LCS	5A28014-BS1	5A28014-BS1_Integration	01/28/15 16:31
Calibration Check	5B03426-CCV3	SEQ-CCV3_Integration	01/28/15 17:24
Calibration Blank	5B03426-CCB3	SEQ-CCB3_Integration	01/28/15 17:42

ANALYSIS SEQUENCE SUMMARY

SW9060A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501116
Client:	CB&I	Project:	Radford AAP
Sequence:	5B04116	Instrument:	WC-TOC1
Calibration:	5023004		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	5B04116-CCV1	02-05-15Q	02/05/15 16:07
Calibration Blank	5B04116-CCB1	02-05-15Q	02/05/15 16:29
Blank	5B05019-BLK1	02-05-15Q	02/05/15 16:51
LCS	5B05019-BS1	02-05-15Q	02/05/15 17:22
49MW02	1501116-02	02-05-15Q	02/05/15 17:48
50MW02	1501116-03	02-05-15Q	02/05/15 18:11
49TM01	1501116-04	02-05-15Q	02/05/15 18:33
48MW3	1501116-05	02-05-15Q	02/05/15 18:56
48MW3	5B05019-MS1	02-05-15Q	02/05/15 19:24
48MW3	5B05019-MSD1	02-05-15Q	02/05/15 19:54
RB012714	1501116-06	02-05-15Q	02/05/15 20:19
49TM02	1501116-07	02-05-15Q	02/05/15 20:41
Calibration Check	5B04116-CCV2	02-05-15Q	02/05/15 22:23
Calibration Blank	5B04116-CCB2	02-05-15Q	02/05/15 22:47

INITIAL CALIBRATION DATA

SW9056A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501116
Client:	CB&I	Project:	Radford AAP
Calibration:	4351002	Instrument:	WC-IC2
Matrix:	Water	Calibration Dates:	12/16/14 9:47 12/16/14 11:52

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Bromide	0.126	0.1085905	0.252	0.1108726	0.63	0.1180673	1.26	0.1237546	6.3	0.1299016	12.6	0.1302967
Chloride	0.5	0.3003194	1	0.2984897	2.5	0.3053954	5	0.3078736	25	0.3040147	50	0.3022272
Fluoride	0.05	0.489534	0.1	0.493946	0.25	0.5097388	0.5	0.5311596	2.5	0.5045864	5	0.4840282
Sulfate as SO4	0.5	0.209077	1	0.2078992	2.5	0.2136142	5	0.2170974	25	0.2157216	50	0.2141794
Nitrate as N	0.05	0.674878	0.1	0.666766	0.25	0.6984688	0.5	0.7243688	2.5	0.7440152	5	0.7440886
Nitrite as N	0.05	0.656516	0.1	0.664483	0.25	0.695526	0.5	0.7044518	2.5	0.6747124	5	0.6583138

INITIAL CALIBRATION DATA (Continued)

SW9056A

Laboratory: Empirical Laboratories, LLC
SDG: 1501116
Client: CB&I
Project: Radford AAP
Calibration: 4351002
Instrument: WC-IC2
Matrix: Water
Calibration Dates: 12/16/14 9:47 12/16/14 11:52

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Bromide	31.5	0.1283104	63	~~0.110431~~								
Chloride	125	0.301513	250	0.3010025								
Fluoride	12.5	~~0.4445155~~	25	~~0.4043972~~								
Sulfate as SO4	125	0.2117641	250	0.1998974								
Nitrate as N	12.5	0.7445325	25	0.7354732								
Nitrite as N	12.5	~~0.6231667~~	25	~~0.5849232~~								

INITIAL CALIBRATION DATA (Continued)

SW9056A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501116
Client:	CB&I	Project:	Radford AAP
Calibration:	4351002	Instrument:	WC-IC2
Matrix:	Water	Calibration Dates:	12/16/14 9:47 12/16/14 11:52

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Bromide	0.1213991	7.449655	8.731428	0.6244358	0.9999458		0.995	
Chloride	0.3026044	0.9960588	4.981625	0.3698484	0.9999975		0.995	
Fluoride	0.5021655	3.402805	3.305333	0.1072065	0.9994431		0.995	
Sulfate as SO4	0.2111563	2.614724	9.39875	2.737571	0.9990053		0.995	
Nitrate as N	0.7165739	4.493295	10.39125	1.665896	0.9999603		0.995	
Nitrite as N	0.6756672	2.972466	6.139833	5.826773E-02	0.9997826		0.995	

Per current DoD QSM requirements, effective 03/17/2014, Empirical has updated the linear calibration coefficient requirements to reflect a limit of 0.990 for "r2" rather than the previously reported limit of 0.995 for "r". The change in assessment criteria is consistent with regulatory requirements.

INITIAL CALIBRATION DATA

SW9060A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501116	
Client:	CB&I	Project:	Radford AAP	
Calibration:	5023004	Instrument:	WC-TOC1	
Matrix:	Water	Calibration Dates:	1/19/15 11:53	1/19/15 14:37

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Total Organic Carbon	0	0	1	11.73	2.5	10.716	5	10.326	10	10.82	25	10.928

INITIAL CALIBRATION DATA (Continued)

SW9060A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501116	
Client:	CB&I	Project:	Radford AAP	
Calibration:	5023004	Instrument:	WC-TOC1	
Matrix:	Water	Calibration Dates:	1/19/15 11:53	1/19/15 14:37

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Total Organic Carbon	50	11.194	100	11.59								

INITIAL CALIBRATION DATA (Continued)

SW9060A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501116
Client:	CB&I	Project:	Radford AAP
Calibration:	5023004	Instrument:	WC-TOC1
Matrix:	Water	Calibration Dates:	1/19/15 11:53 1/19/15 14:37

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Total Organic Carbon	9.663	40.68495			0.9996185		0.99	

Per current DoD QSM requirements, effective 03/17/2014, Empirical has updated the linear calibration coefficient requirements to reflect a limit of 0.990 for "r2" rather than the previously reported limit of 0.995 for "r". The change in assessment criteria is consistent with regulatory requirements.

HOLDING TIME SUMMARY

SW9056A

Laboratory: Empirical Laboratories, LLC SDG: 1501116

Client: CB&I Project: Radford AAP

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
49MW02	01/27/15 10:55	01/28/15 08:40	01/28/15 10:37	N/A	2.00	01/28/15 13:14	1.14	2.00	
49MW02	01/27/15 10:55	01/28/15 08:40	01/28/15 10:37	N/A	28.00	01/28/15 13:14	1.14	28.00	
50MW02	01/27/15 12:55	01/28/15 08:40	01/28/15 10:37	N/A	28.00	01/28/15 13:32	1.07	28.00	
50MW02	01/27/15 12:55	01/28/15 08:40	01/28/15 10:37	N/A	2.00	01/28/15 13:32	1.07	2.00	
49TM01	01/27/15 12:55	01/28/15 08:40	01/28/15 10:37	N/A	28.00	01/28/15 13:50	1.08	28.00	
49TM01	01/27/15 12:55	01/28/15 08:40	01/28/15 10:37	N/A	2.00	01/28/15 13:50	1.08	2.00	
48MW3	01/27/15 14:35	01/28/15 08:40	01/28/15 10:37	N/A	2.00	01/28/15 14:08	1.02	2.00	
48MW3	01/27/15 14:35	01/28/15 08:40	01/28/15 10:37	N/A	28.00	01/28/15 14:08	1.02	28.00	
RB012714	01/27/15 15:15	01/28/15 08:40	01/28/15 10:37	N/A	28.00	01/28/15 15:19	1.04	28.00	
RB012714	01/27/15 15:15	01/28/15 08:40	01/28/15 10:37	N/A	2.00	01/28/15 15:19	1.04	2.00	
49TM02	01/27/15 14:35	01/28/15 08:40	01/28/15 10:37	N/A	2.00	01/28/15 15:37	1.08	2.00	
49TM02	01/27/15 14:35	01/28/15 08:40	01/28/15 10:37	N/A	28.00	01/28/15 15:37	1.08	28.00	

HOLDING TIME SUMMARY

SW9060A

Laboratory: Empirical Laboratories, LLC SDG: 1501116

Client: CB&I Project: Radford AAP

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
49MW02	01/27/15 10:55	01/28/15 08:40	02/05/15 14:56	N/A	28.00	02/05/15 17:48	9.33	28.00	
50MW02	01/27/15 12:55	01/28/15 08:40	02/05/15 14:56	N/A	28.00	02/05/15 18:11	9.26	28.00	
49TM01	01/27/15 12:55	01/28/15 08:40	02/05/15 14:56	N/A	28.00	02/05/15 18:33	9.28	28.00	
48MW3	01/27/15 14:35	01/28/15 08:40	02/05/15 14:56	N/A	28.00	02/05/15 18:56	9.22	28.00	
RB012714	01/27/15 15:15	01/28/15 08:40	02/05/15 14:56	N/A	28.00	02/05/15 20:19	9.25	28.00	
49TM02	01/27/15 14:35	01/28/15 08:40	02/05/15 14:56	N/A	28.00	02/05/15 20:41	9.30	28.00	

Data for Wet Chemistry Supporting Raw Data / Logs

Sequence Overview

Sequence Details

Name:	**121614**	*Created On:*	**26/Mar/14 13:54:45**
Directory:	**Instrument Data_ICS-2100\2014\Dec2014**	*Created By:*	**Thermo Elctron NA**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**18/Dec/14 11:08:29**
No. of Injections:	**11**	*Updated By:*	**NSH-IONC2**

Injection Details

No.	Injection Name	Position	Type	Level	Inject Time	Status
1	blank	1	Unknown		16/Dec/14 09:11:51	Finished
2	blank	2	Unknown		16/Dec/14 09:29:57	Finished
3	SEQ-CAL1 ML0464	3	Calibration Standard	01	16/Dec/14 09:47:47	Finished
4	SEQ-CAL2 ML0465	4	Calibration Standard	02	16/Dec/14 10:05:37	Finished
5	SEQ-CAL3 ML0466	5	Calibration Standard	03	16/Dec/14 10:23:27	Finished
6	SEQ-CAL4 ML0467	6	Calibration Standard	04	16/Dec/14 10:41:17	Finished
7	SEQ-CAL5 ML0468	7	Calibration Standard	05	16/Dec/14 10:59:07	Finished
8	SEQ-CAL6 ML0469	8	Calibration Standard	06	16/Dec/14 11:16:58	Finished
9	SEQ-CAL7 ML0470	9	Calibration Standard	07	16/Dec/14 11:34:48	Finished
10	SEQ-CAL8 ML0471	10	Calibration Standard	08	16/Dec/14 11:52:39	Finished
11	blank	11	Unknown		16/Dec/14 12:10:29	Finished

Sequence Overview

Sequence Details

Name:	**121614A**	*Created On:*	**26/Mar/14 13:54:45**
Directory:	**Instrument Data_ICS-2100\2014\Dec2014**	*Created By:*	**Thermo Elctron NA**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**18/Dec/14 11:10:58**
No. of Injections:	**20**	*Updated By:*	**NSH-IONC2**

Injection Details

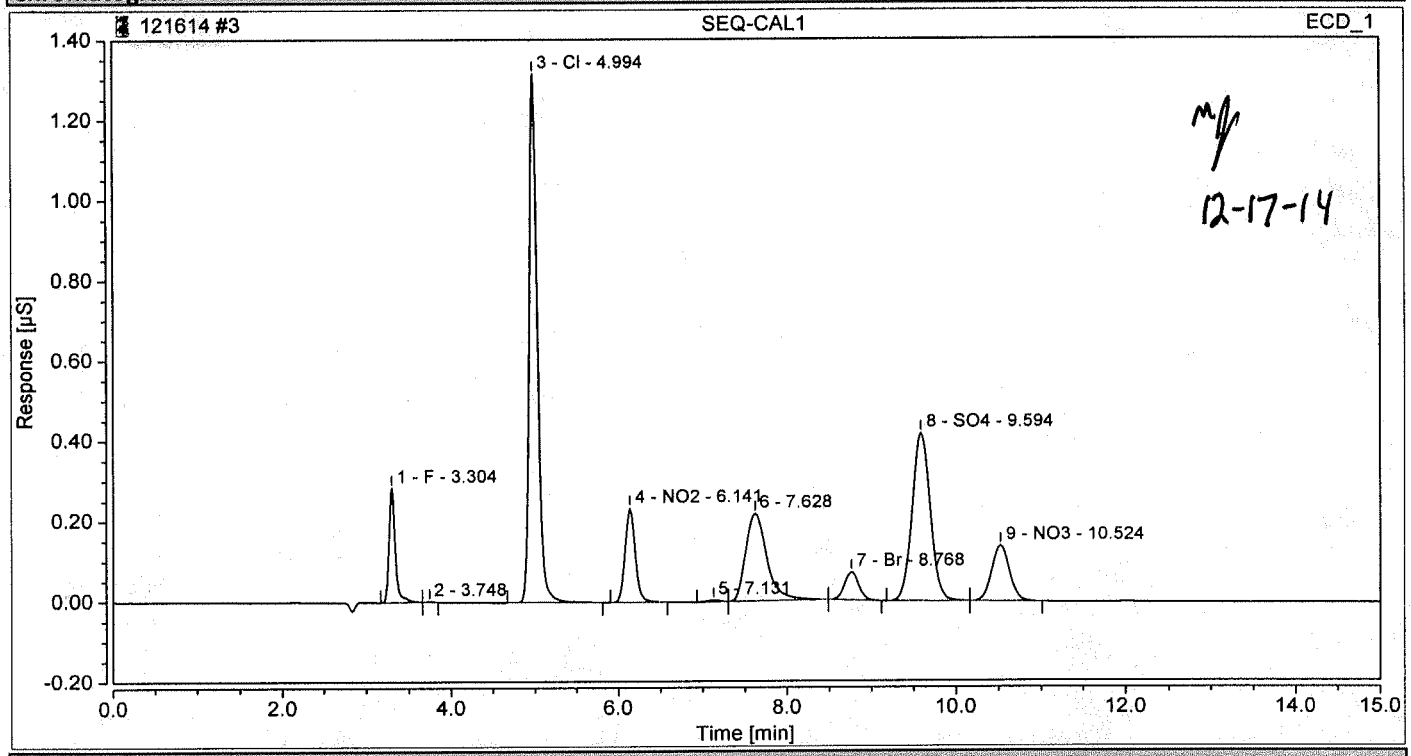
No.	Injection Name	Position	Type	Level	Inject Time	Status
1	BLANK	1	Unknown		16/Dec/14 13:01:07	Finished
2	BLANK	2	Unknown		16/Dec/14 13:20:03	Finished
3	SEQ-ICV1 4L0395	3	Unknown		16/Dec/14 13:43:39	Finished
4	SEQ-CCV1	4	Unknown		16/Dec/14 14:09:16	Finished
5	SEQ-CCB1	5	Unknown		16/Dec/14 14:27:15	Finished
6	SEQ-CRL1	6	Unknown		16/Dec/14 14:45:05	Finished
7	SEQ-CRL2	7	Unknown		16/Dec/14 15:02:55	Finished
8	SEQ-CRL3	8	Unknown		16/Dec/14 15:20:45	Finished
9	4L16013-BLK1	9	Unknown		16/Dec/14 15:38:35	Finished
10	4L16013-BS1	10	Unknown		16/Dec/14 15:56:25	Finished
11	1412171-01	11	Unknown		16/Dec/14 16:14:15	Finished
12	1412171-02	12	Unknown		16/Dec/14 16:32:06	Finished
13	1412172-01@50X	13	Unknown		16/Dec/14 16:52:13	Finished
14	1412019-03RE1	14	Unknown		16/Dec/14 17:10:05	Finished
15	1412019-04RE1	15	Unknown		16/Dec/14 17:27:55	Finished
16	1412019-07RE1	16	Unknown		16/Dec/14 17:45:45	Finished
17	1412019-08RE1	17	Unknown		16/Dec/14 18:03:36	Finished
18	SEQ-CCV2	18	Unknown		16/Dec/14 18:21:26	Finished
19	SEQ-CCB2	19	Unknown		16/Dec/14 18:39:16	Finished
20	BLANK	20	Unknown		16/Dec/14 18:57:07	Finished

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL1**	*Run Time (min):*	**15.00**
Vial Number:	**3**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**01**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 09:47**	*Sample Weight:*	**1.0000**

Chromatogram



MJ 12-17-14

Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.304	0.0244767	0.284	5.78	10.59	0.0501
2		3.748	0.0001516	0.002	0.04	0.07	n.a.
3	Cl	4.994	0.1501597	1.316	35.43	49.03	0.4986
4	NO2	6.141	0.0328258	0.234	7.75	8.72	0.0496
5		7.131	0.0007163	0.004	0.17	0.16	n.a.
6		7.628	0.0635233	0.218	14.99	8.10	n.a.
7	Br	8.768	0.0136824	0.070	3.23	2.59	0.1064
8	SO4	9.594	0.1045385	0.418	24.67	15.58	0.5156
9	NO3	10.524	0.0337439	0.139	7.96	5.16	0.0458
Total:			**0.424**	**2.685**	**100.00**	**100.00**	

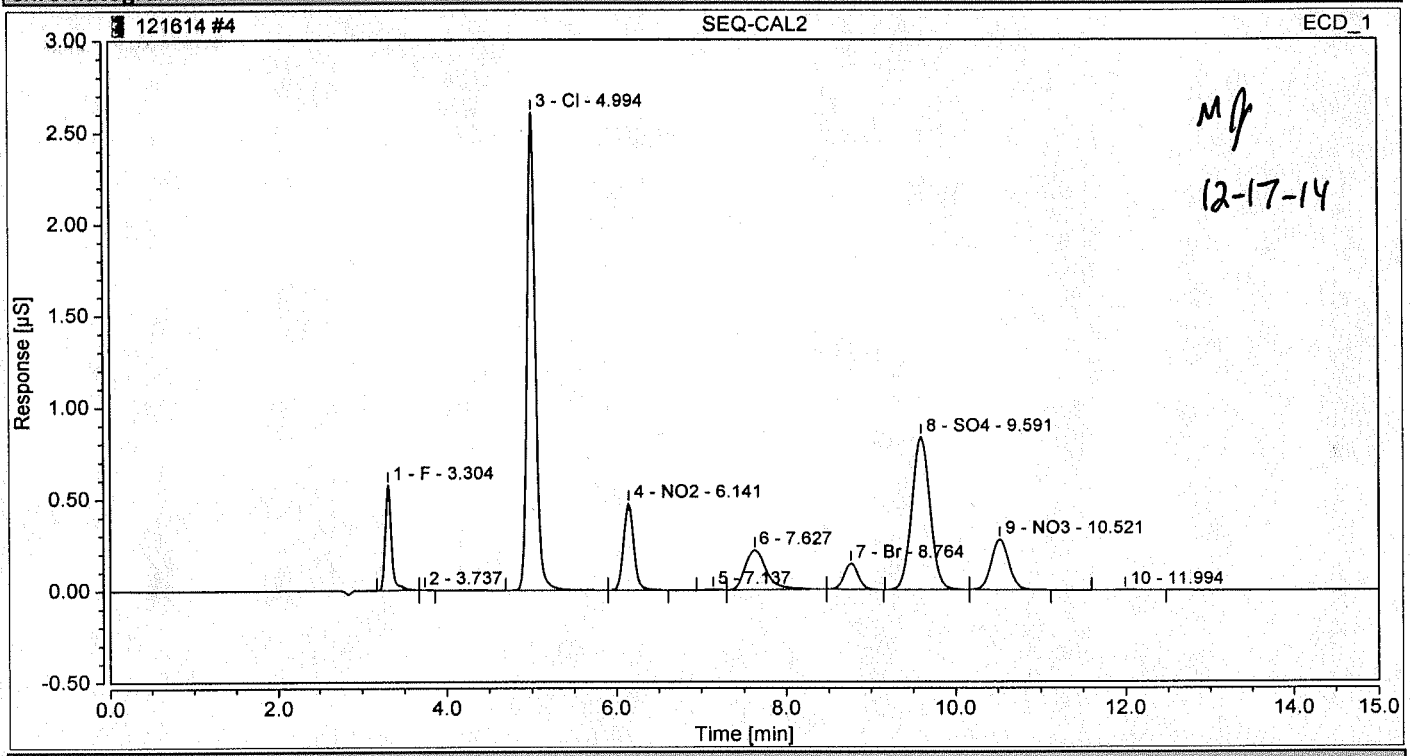
J.H. 12.18.14

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL2**	*Run Time (min):*	**15.00**
Vial Number:	**4**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**02**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 10:05**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.304	0.0493946	0.575	6.32	11.21	0.1011
2		3.737	0.0001163	0.001	0.01	0.02	n.a.
3	Cl	4.994	0.2984897	2.607	38.21	50.84	0.9911
4	NO2	6.141	0.0664483	0.474	8.51	9.24	0.1004
5		7.137	0.0005280	0.003	0.07	0.06	n.a.
6		7.627	0.0631616	0.216	8.08	4.22	n.a.
7	Br	8.764	0.0279399	0.142	3.58	2.77	0.2172
8	SO4	9.591	0.2078992	0.833	26.61	16.24	1.0254
9	NO3	10.521	0.0666766	0.275	8.53	5.37	0.0904
10		11.994	0.0005919	0.002	0.08	0.03	n.a.
Total:			**0.781**	**5.128**	**100.00**	**100.00**	

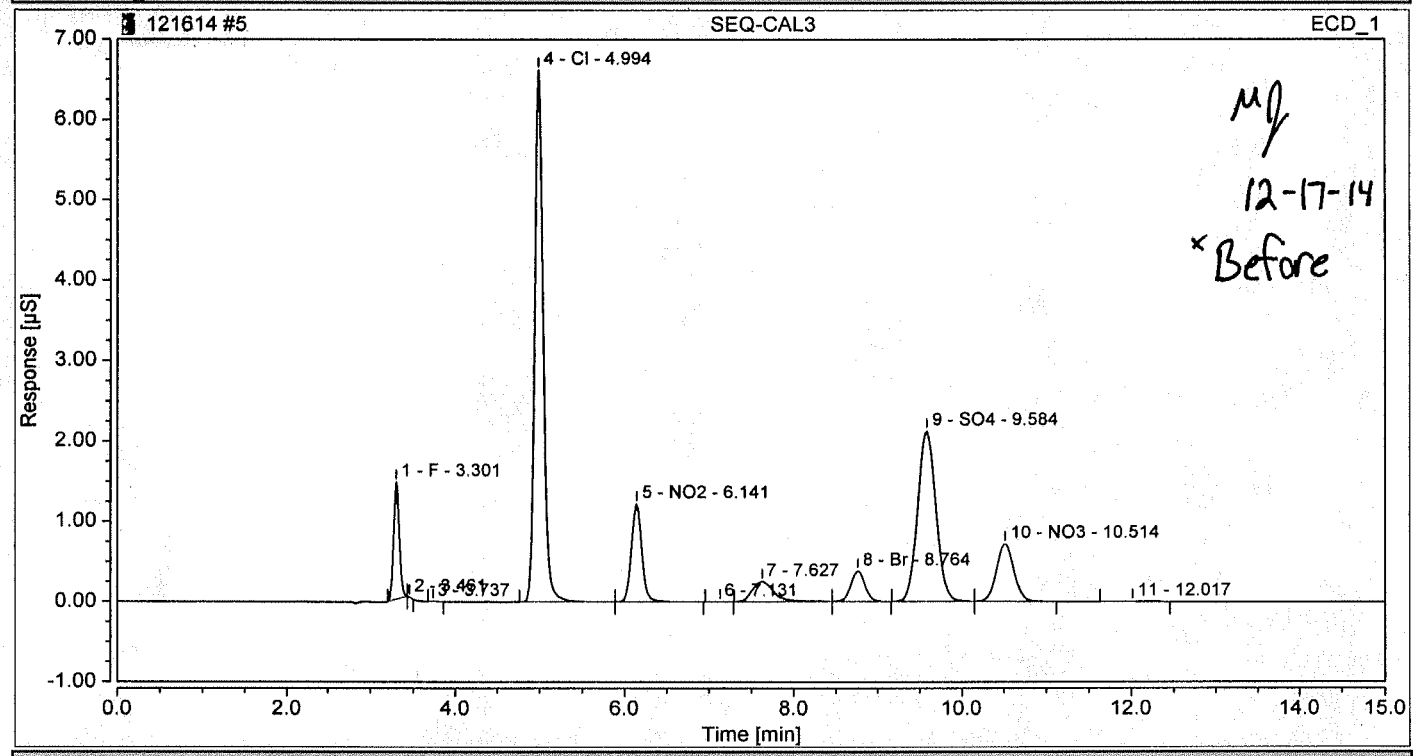
J.H. 12.18.14

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL3**	*Run Time (min):*	**15.00**
Vial Number:	**5**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**03**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 10:23**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

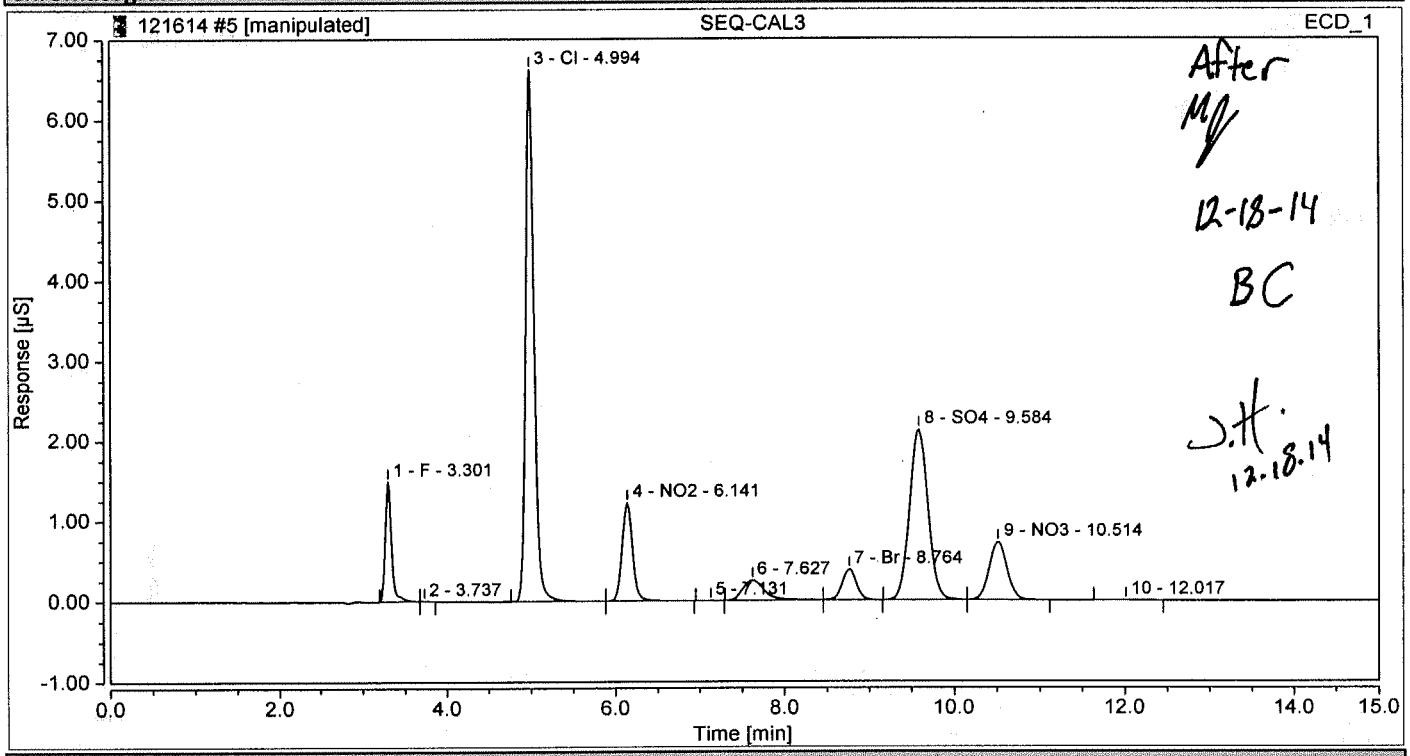
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.301	0.1159286	1.464	6.06	11.44	0.2373
2		3.461	0.0001110	0.003	0.01	0.02	n.a.
3		3.737	0.0001562	0.002	0.01	0.01	n.a.
4	Cl	4.994	0.7634884	6.618	39.92	51.74	2.5351
5	NO2	6.141	0.1738815	1.224	9.09	9.57	0.2627
6		7.131	0.0004057	0.003	0.02	0.02	n.a.
7		7.627	0.0743022	0.249	3.89	1.95	n.a.
8	Br	8.764	0.0743824	0.381	3.89	2.98	0.5783
9	SO4	9.584	0.5340354	2.127	27.93	16.63	2.6340
10	NO3	10.514	0.1746172	0.719	9.13	5.62	0.2368
11		12.017	0.0010489	0.003	0.05	0.02	n.a.
Total:			**1.912**	**12.791**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL3**	*Run Time (min):*	**15.00**
Vial Number:	**5**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**03**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 10:23**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

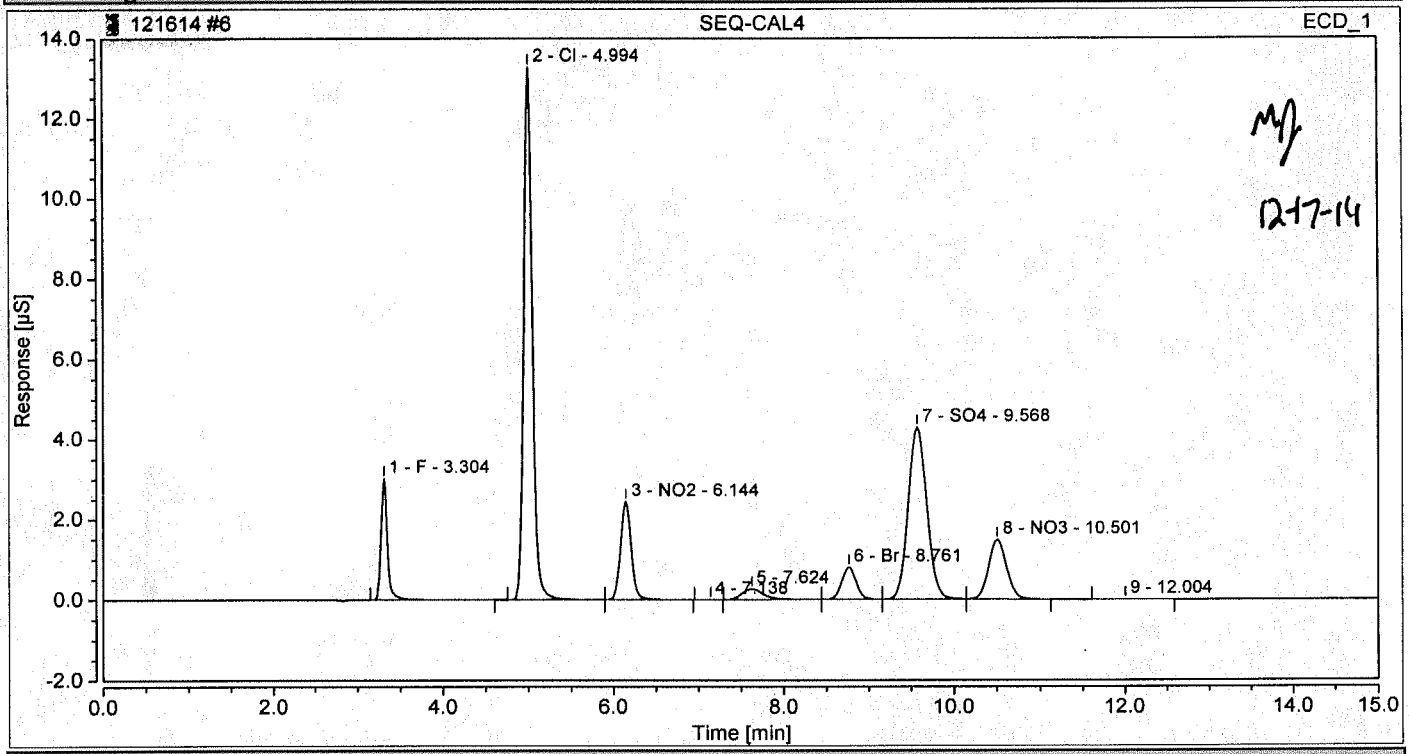
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.301	0.1274347	1.492	6.62	11.64	0.2609
2		3.737	0.0001377	0.000	0.01	0.00	n.a.
3	Cl	4.994	0.7634884	6.618	39.69	51.64	2.5351
4	NO2	6.141	0.1738815	1.224	9.04	9.55	0.2627
5		7.131	0.0004057	0.003	0.02	0.02	n.a.
6		7.627	0.0743022	0.249	3.86	1.95	n.a.
7	Br	8.764	0.0743824	0.381	3.87	2.97	0.5783
8	SO4	9.584	0.5340354	2.127	27.76	16.60	2.6340
9	NO3	10.514	0.1746172	0.719	9.08	5.61	0.2368
10		12.017	0.0010489	0.003	0.05	0.02	n.a.
Total:			**1.924**	**12.815**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL4**	*Run Time (min):*	**15.00**
Vial Number:	**6**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**04**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 10:41**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.304	0.2655798	3.025	6.91	11.83	0.5437
2	Cl	4.994	1.5393683	13.281	40.06	51.93	5.1114
3	NO2	6.144	0.3522259	2.441	9.17	9.54	0.5321
4		7.138	0.0004201	0.003	0.01	0.01	n.a.
5		7.624	0.0793942	0.264	2.07	1.03	n.a.
6	Br	8.761	0.1559308	0.798	4.06	3.12	1.2124
7	SO4	9.568	1.0854872	4.281	28.25	16.74	5.3539
8	NO3	10.501	0.3621844	1.479	9.43	5.78	0.4911
9		12.004	0.0017031	0.005	0.04	0.02	n.a.
Total:			**3.842**	**25.577**	**100.00**	**100.00**	

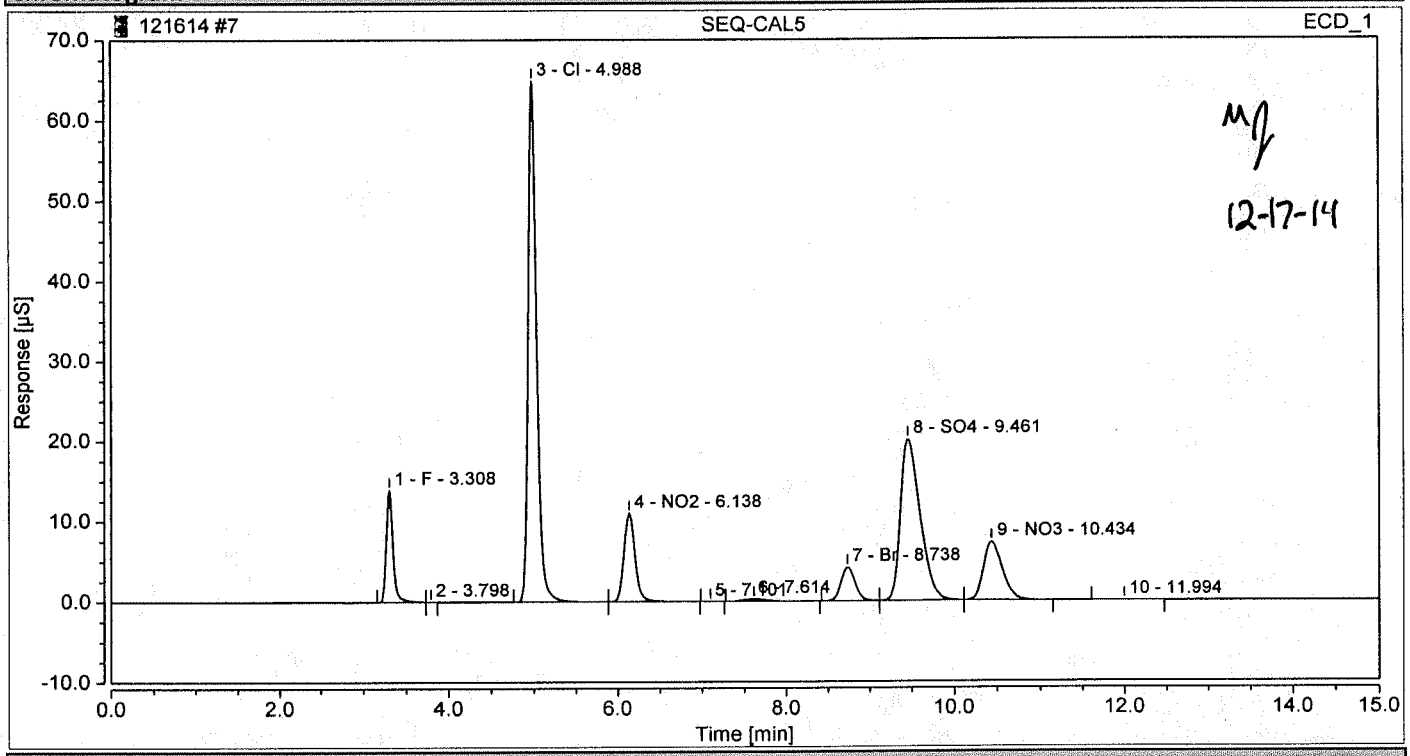
12.18.14

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL5**	*Run Time (min):*	**15.00**
Vial Number:	**7**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**05**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 10:59**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.308	1.2614660	13.924	6.74	11.45	2.5827
2		3.798	0.0003664	0.005	0.00	0.00	n.a.
3	Cl	4.988	7.6003656	64.873	40.62	53.35	25.2366
4	NO2	6.138	1.6867810	10.981	9.01	9.03	2.5480
5		7.101	0.0003045	0.002	0.00	0.00	n.a.
6		7.614	0.0861981	0.286	0.46	0.24	n.a.
7	Br	8.738	0.8183803	4.177	4.37	3.43	6.3629
8	SO4	9.461	5.3930390	20.086	28.82	16.52	26.6000
9	NO3	10.434	1.8600380	7.249	9.94	5.96	2.5220
10		11.994	0.0057436	0.018	0.03	0.01	n.a.
Total:			**18.713**	**121.601**	**100.00**	**100.00**	

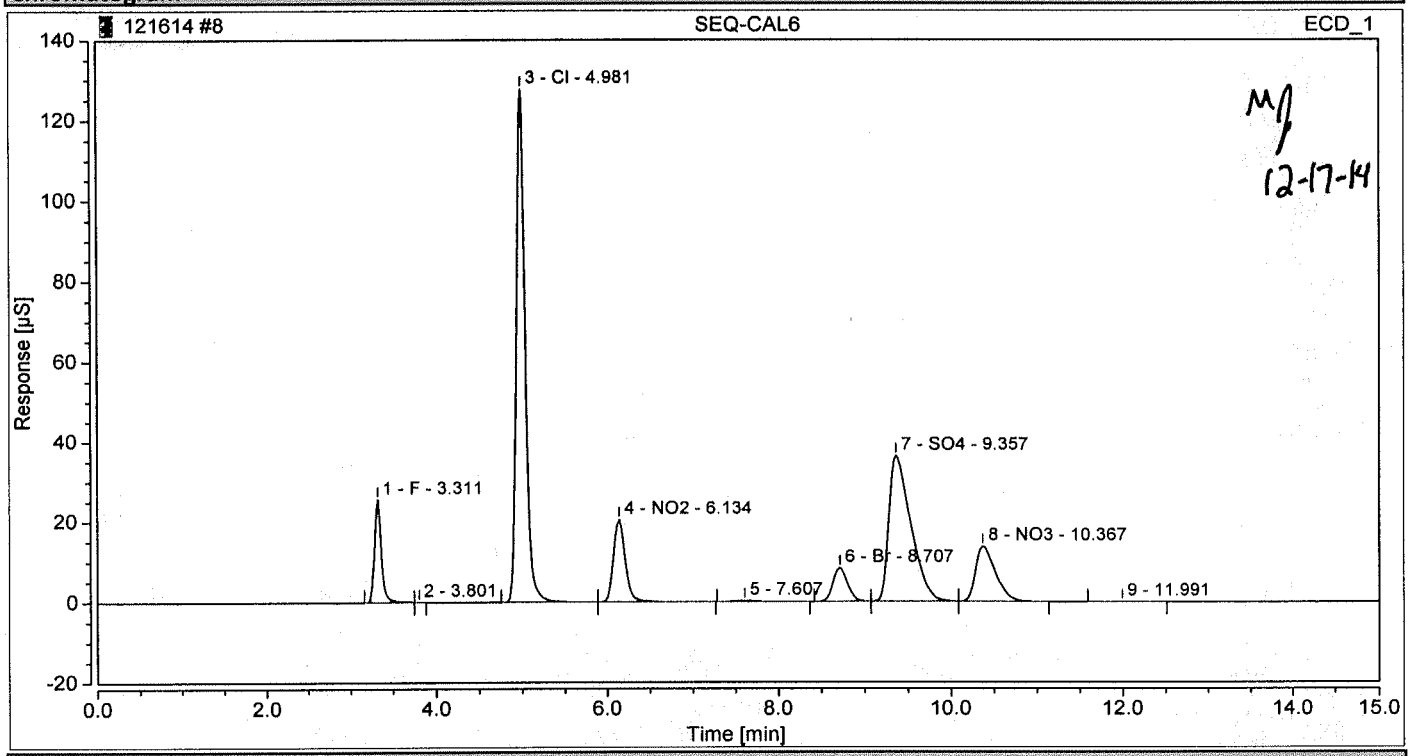
J.H. 12.18.14

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL6**	*Run Time (min):*	**15.00**
Vial Number:	**8**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**06**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 11:16**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.311	2.4201409	25.644	6.54	11.02	4.9549
2		3.801	0.0008154	0.012	0.00	0.01	n.a.
3	Cl	4.981	15.1113592	127.719	40.86	54.89	50.1765
4	NO2	6.134	3.2915686	20.506	8.90	8.81	4.9722
5		7.607	0.0816563	0.277	0.22	0.12	n.a.
6	Br	8.707	1.6417382	8.387	4.44	3.60	12.7645
7	SO4	9.357	10.7089752	36.371	28.95	15.63	52.8197
8	NO3	10.367	3.7204432	13.732	10.06	5.90	5.0444
9		11.991	0.0099274	0.030	0.03	0.01	n.a.
Total:			**36.987**	**232.678**	**100.00**	**100.00**	

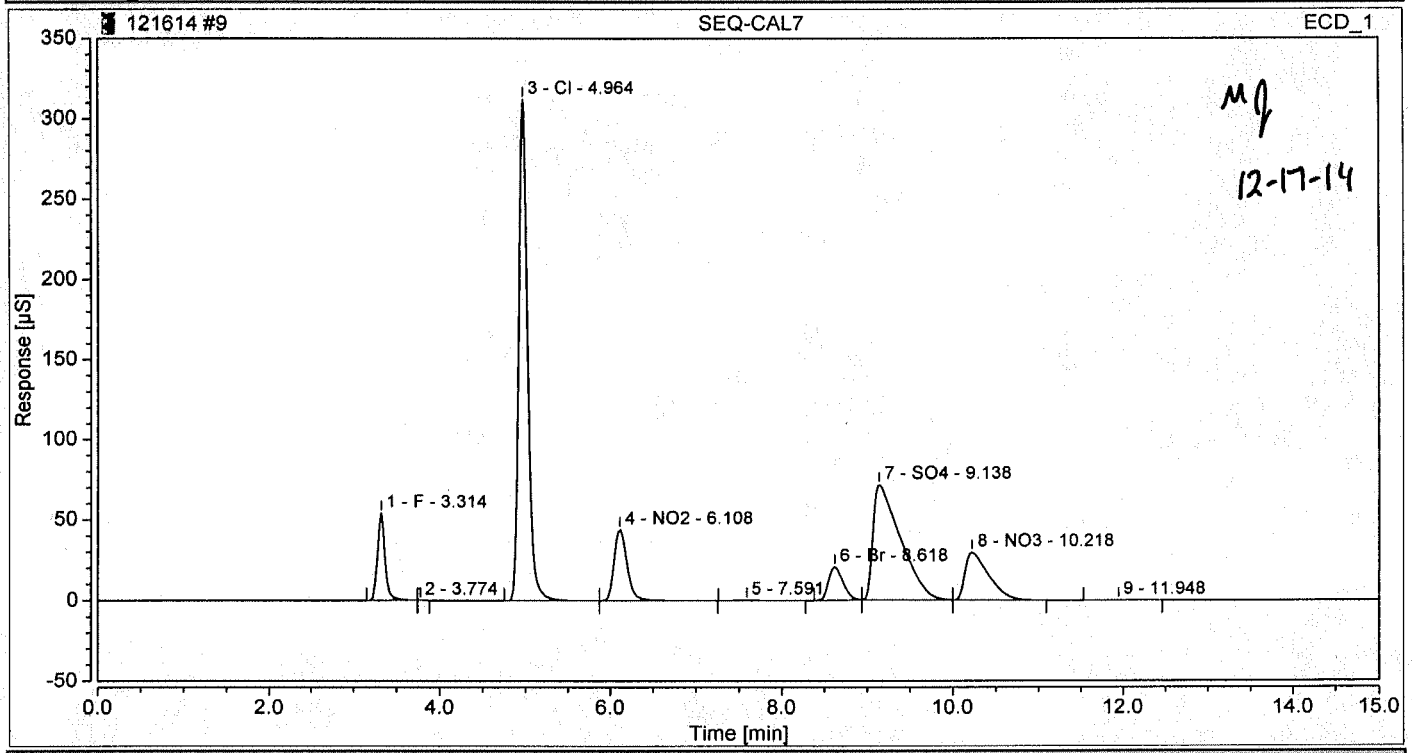
JH. 12.18.14

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL7**	*Run Time (min):*	**15.00**
Vial Number:	**9**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**07**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 11:34**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount	
1	F	3.314	5.5564427	54.049	6.11	10.16	11.3760	NOT USED
2		3.774	0.0026159	0.027	0.00	0.00	n.a.	
3	Cl	4.964	37.6891170	311.985	41.42	58.64	125.1449	
4	NO2	6.108	7.7895833	44.024	8.56	8.27	11.7667	NOT USED
5		7.591	0.1035898	0.347	0.11	0.07	n.a.	
6	Br	8.618	4.0417792	20.645	4.44	3.88	31.4249	
7	SO4	9.138	26.4705091	71.371	29.09	13.42	130.5600	
8	NO3	10.218	9.3066560	29.506	10.23	5.55	12.6185	
9		11.948	0.0233292	0.069	0.03	0.01	n.a.	
Total:			**90.984**	**532.021**	**100.00**	**100.00**		

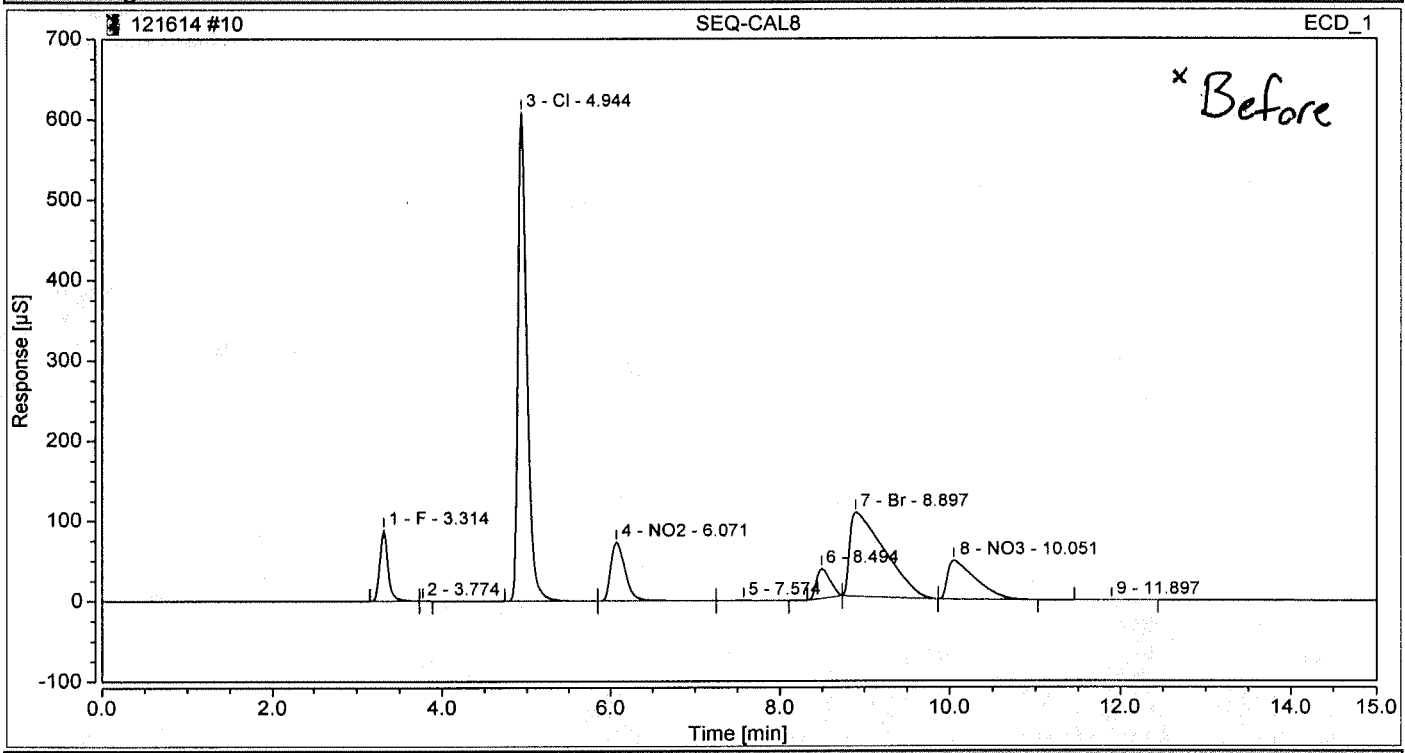
J.H. 12.18.14

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL8**	*Run Time (min):*	**16.00**
Vial Number:	**10**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**08**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 11:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

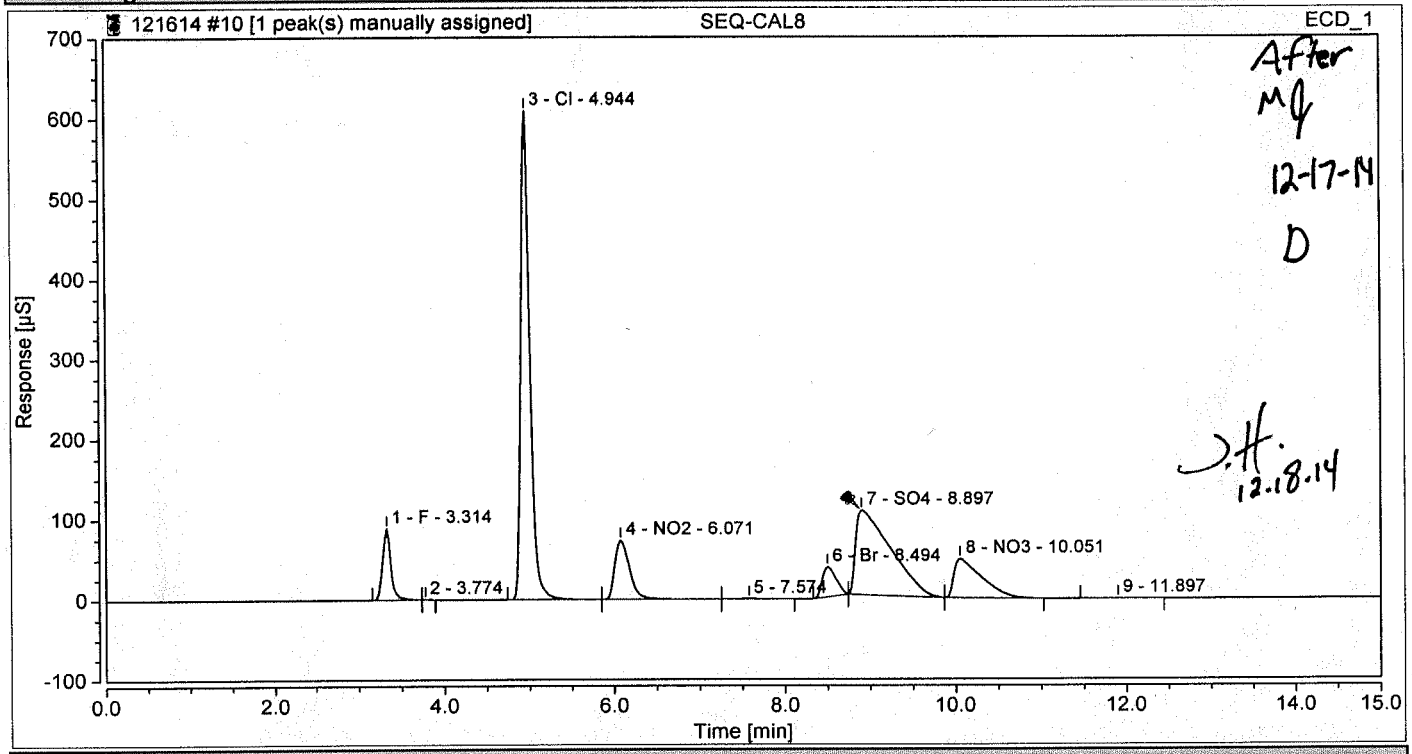
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.314	10.1099268	88.941	5.76	9.24	20.6987
2		3.774	0.0075837	0.079	0.00	0.01	n.a.
3	Cl	4.944	75.2506308	608.833	42.88	63.23	249.8661
4	NO2	6.071	14.6230809	73.355	8.33	7.62	22.0892
5		7.574	0.1273881	0.427	0.07	0.04	n.a.
6		8.494	6.9571532	37.385	3.96	3.88	n.a.
7	Br	8.897	49.9743575	105.092	28.48	10.92	388.5514
n.a.	SO4	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
8	NO3	10.051	18.3868335	48.578	10.48	5.05	24.9300
9		11.897	0.0465005	0.128	0.03	0.01	n.a.
Total:			**175.483**	**962.819**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL8**	*Run Time (min):*	**15.00**
Vial Number:	**10**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**08**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 11:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

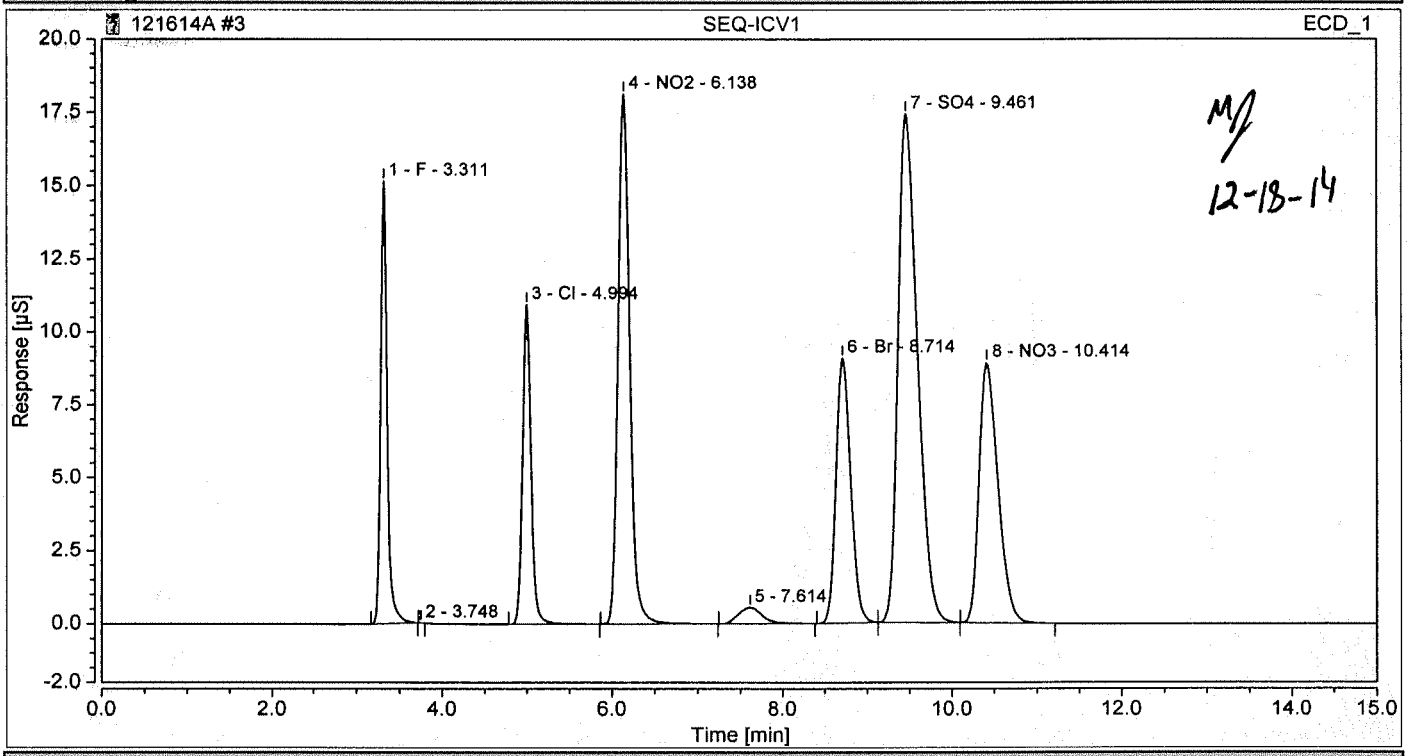
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount	
1	F	3.314	10.1099268	88.941	5.76	9.24	20.6987	NOT USED
2		3.774	0.0075837	0.079	0.00	0.01	n.a.	
3	Cl	4.944	75.2506308	608.833	42.88	63.23	249.8661	
4	NO2	6.071	14.6230809	73.355	8.33	7.62	22.0892	NOT USED
5		7.574	0.1273881	0.427	0.07	0.04	n.a.	
6	Br	8.494	6.9571532	37.385	3.96	3.88	54.0920	NOT USED
7	SO4	8.897	49.9743575	105.092	28.48	10.92	246.4875	
8	NO3	10.051	18.3868335	48.578	10.48	5.05	24.9300	
9		11.897	0.0465005	0.128	0.03	0.01	n.a.	
Total:			**175.483**	**962.819**	**100.00**	**100.00**		

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-ICV1**	*Run Time (min):*	**15.00**
Vial Number:	**3**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 13:43**	*Sample Weight:*	**1.0000**

Chromatogram



MJ 12-18-14

Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.311	1.3777375 X	15.148	9.54	18.90	2.8202 X
2		3.748	0.0000732	0.002	0.00	0.00	n.a.
3	Cl	4.994	1.2644145	10.943	8.76	13.65	4.1984
4	NO2	6.138	2.8686200	18.113	19.87	22.60	4.3333
5		7.614	0.1824815	0.552	1.26	0.69	n.a.
6	Br	8.714	1.8130693	9.078	12.56	11.33	14.0966
7	SO4	9.461	4.6157847	17.395	31.97	21.70	22.7663
8	NO3	10.414	2.3168384	8.921	16.05	11.13	3.1413
Total:			**14.439**	**80.154**	**100.00**	**100.00**	

D.H. 12.18.14

Sequence Overview

Sequence Details

Name:	**012815**	*Created On:*	**26/Mar/14 13:54:45**
Directory:	**Instrument Data_ICS-2100\2015\Jan2015**	*Created By:*	**Thermo Elctron NA**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**03/Feb/15 11:41:34**
No. of Injections:	**25**	*Updated By:*	**NSH-IONC2**

Injection Details

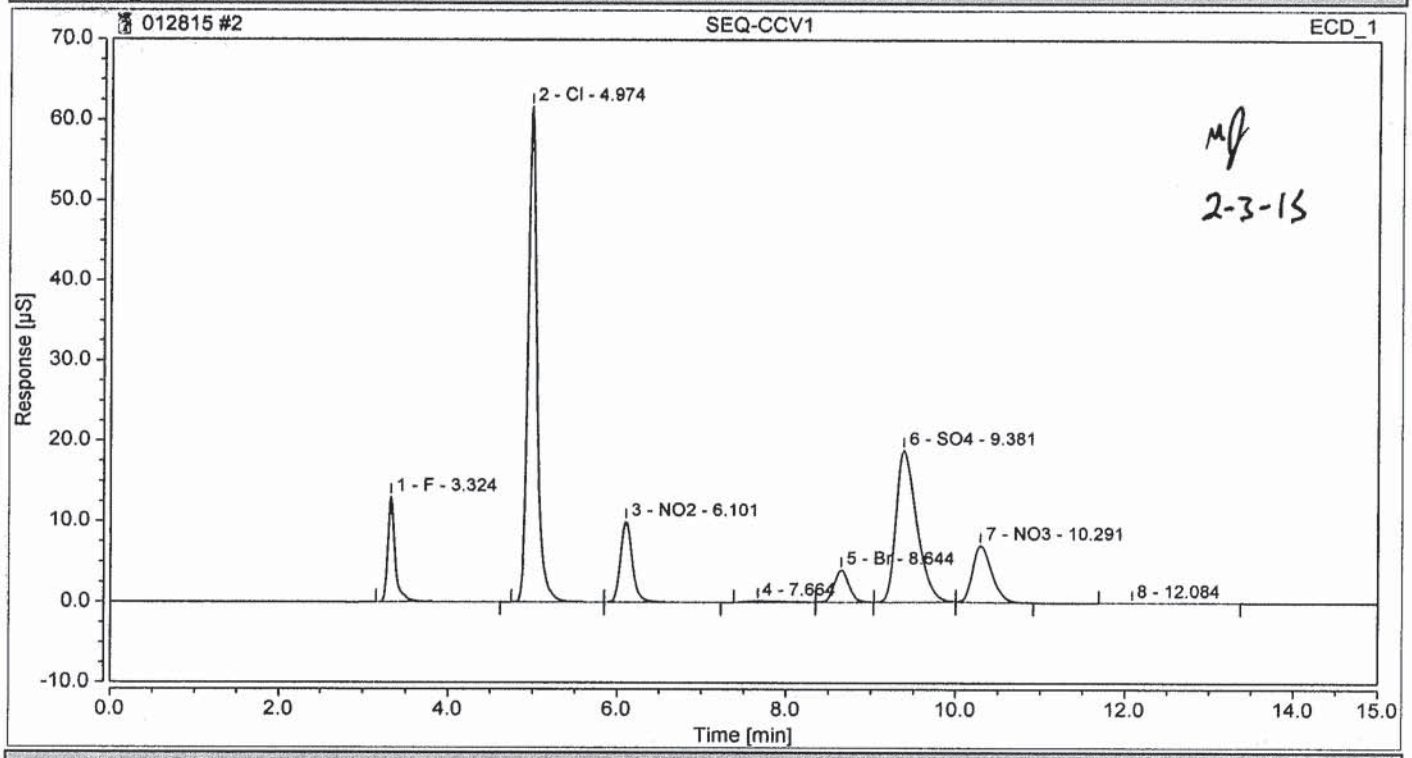
No.	Injection Name	Position	Type	Level	Inject Time	Status
1	BLANK	1	Unknown		28/Jan/15 10:52:19	Finished
2	SEQ-CCV1	2	Unknown		28/Jan/15 11:10:05	Finished
3	SEQ-CCB1	3	Unknown		28/Jan/15 11:27:55	Finished
4	SEQ-CRL1	4	Unknown		28/Jan/15 11:45:45	Finished
5	SEQ-CRL2	5	Unknown		28/Jan/15 12:03:35	Finished
6	SEQ-CRL3	6	Unknown		28/Jan/15 12:21:26	Finished
7	5A28014-BLK1	7	Unknown		28/Jan/15 12:39:16	Finished
8	5A28014-BS1	8	Unknown		28/Jan/15 12:57:06	Finished
9	1501116-02	9	Unknown		28/Jan/15 13:14:57	Finished
10	1501116-03	10	Unknown		28/Jan/15 13:32:47	Finished
11	1501116-04	11	Unknown		28/Jan/15 13:50:38	Finished
12	1501116-05	12	Unknown		28/Jan/15 14:08:28	Finished
13	5A28014-MS1	13	Unknown		28/Jan/15 14:26:18	Finished
14	5A28014-MSD1	14	Unknown		28/Jan/15 14:44:10	Finished
15	5A28014-DUP1	15	Unknown		28/Jan/15 15:01:59	Finished
16	1501116-06	16	Unknown		28/Jan/15 15:19:49	Finished
17	1501116-07	17	Unknown		28/Jan/15 15:37:39	Finished
18	SEQ-CCV2	18	Unknown		28/Jan/15 15:55:29	Finished
19	SEQ-CCB2	19	Unknown		28/Jan/15 16:13:19	Finished
20	5A28014-BS1	20	Unknown		28/Jan/15 16:31:10	Finished
21	1501053-01	21	Unknown		28/Jan/15 16:49:00	Finished
22	1501053-23	22	Unknown		28/Jan/15 17:06:50	Finished
23	SEQ-CCV3	23	Unknown		28/Jan/15 17:24:40	Finished
24	SEQ-CCB3	24	Unknown		28/Jan/15 17:42:30	Finished
25	BLANK	25	Unknown		28/Jan/15 18:00:20	Finished

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CCV1**	*Run Time (min):*	**15.00**
Vial Number:	**2**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**28/Jan/15 11:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.324	1.3256371	13.070	7.04	11.38	2.7135
2	Cl	4.974	7.7612665	61.713	41.21	53.71	25.7709
3	NO2	6.101	1.6430412	10.025	8.73	8.73	2.4819
4		7.664	0.0807754	0.175	0.43	0.15	n.a.
5	Br	8.644	0.8054903	4.007	4.28	3.49	6.2627
6	SO4	9.381	5.3711719	18.866	28.52	16.42	26.4921
7	NO3	10.291	1.8409983	7.030	9.78	6.12	2.4961
8		12.084	0.0028956	0.004	0.02	0.00	n.a.
Total:			**18.831**	**114.890**	**100.00**	**100.00**	

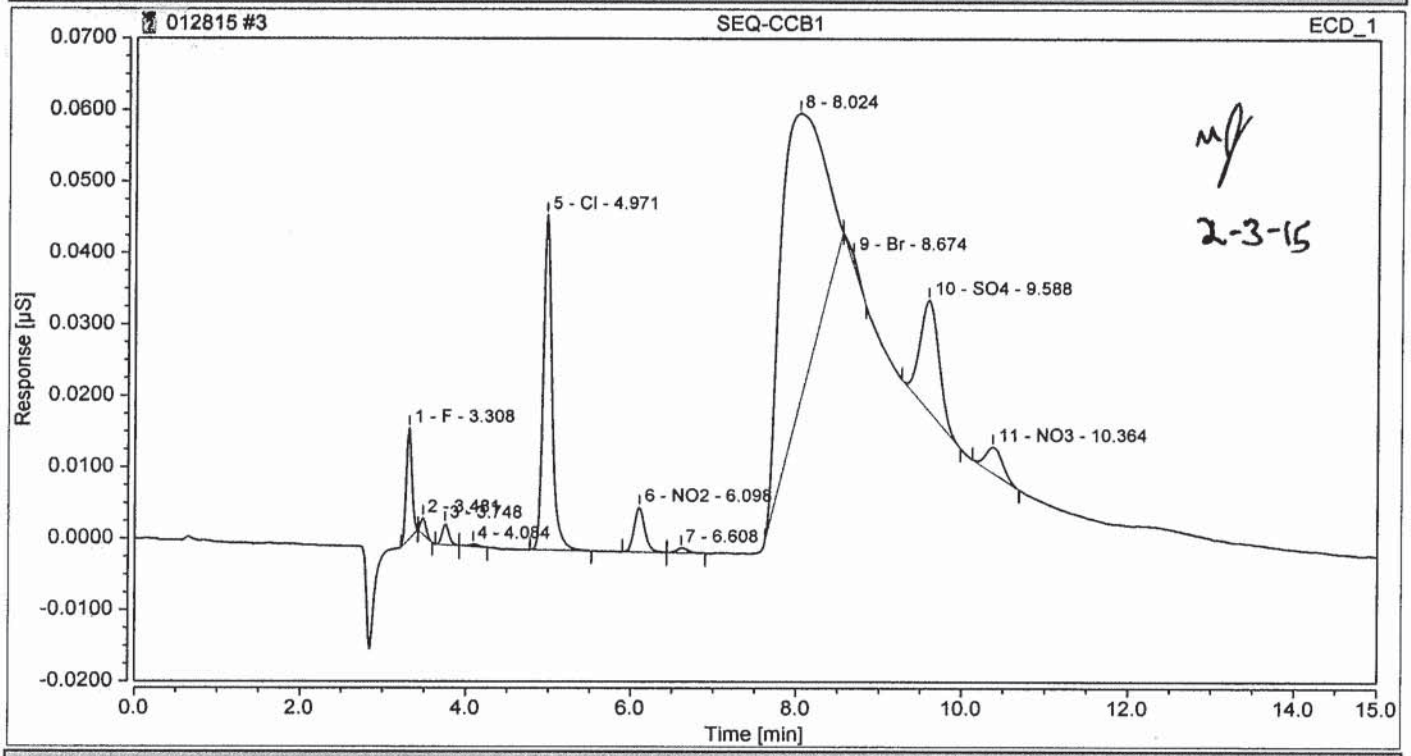
02/03/15

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CCB1**	*Run Time (min):*	**15.00**
Vial Number:	**3**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**28/Jan/15 11:27**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.308	0.0012195	0.016	3.25	11.40	0.0025
2		3.481	0.0001858	0.002	0.49	1.70	n.a.
3		3.748	0.0002843	0.003	0.76	2.16	n.a.
4		4.084	0.0000475	0.000	0.13	0.25	n.a.
5	Cl	4.971	0.0058489	0.047	15.58	34.37	0.0194
6	NO2	6.098	0.0009429	0.006	2.51	4.60	0.0014
7		6.608	0.0001216	0.001	0.32	0.53	n.a.
8		8.024	0.0236913	0.041	63.10	30.00	n.a.
9	Br	8.674	0.0002017	0.001	0.54	1.00	0.0016
10	SO4	9.588	0.0041317	0.016	11.00	11.36	0.0204
11	NO3	10.364	0.0008729	0.004	2.32	2.63	0.0012
Total:			**0.038**	**0.137**	**100.00**	**100.00**	

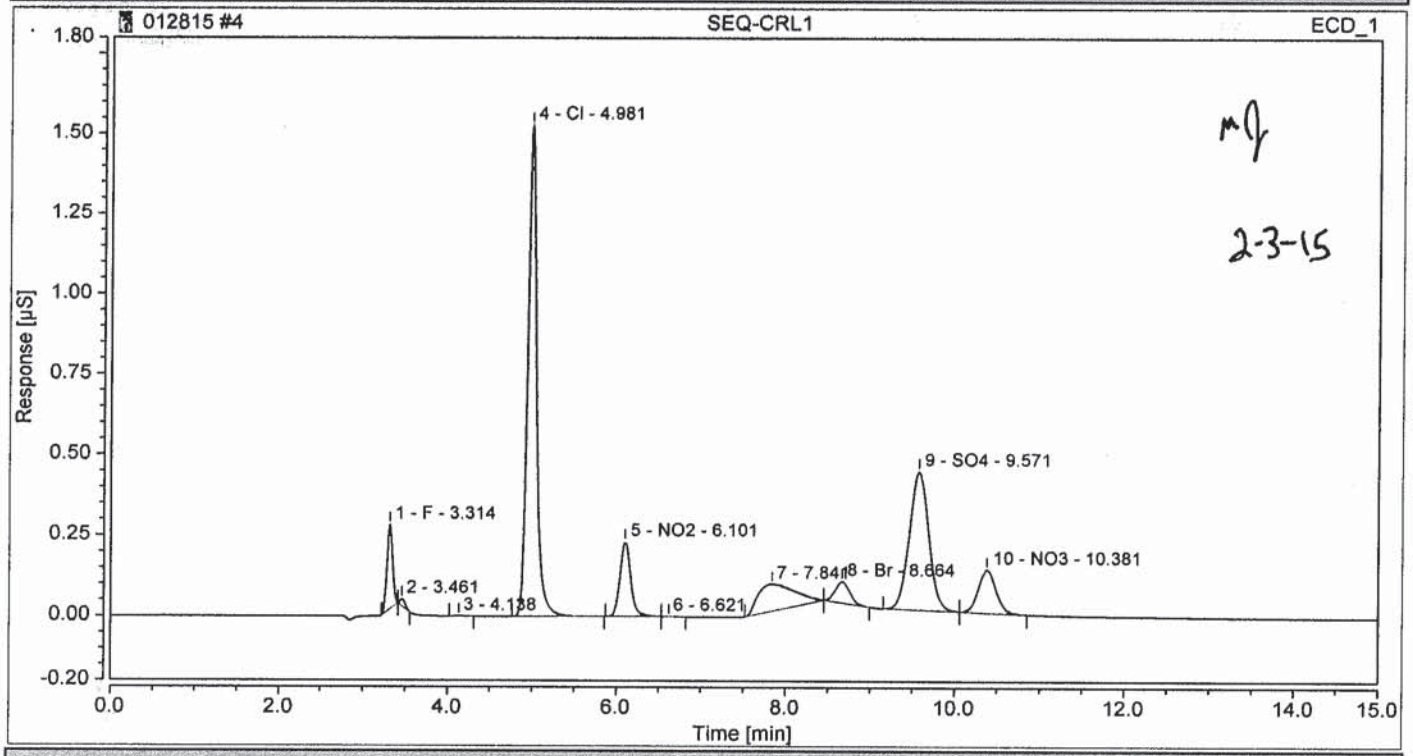
02/03/15

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CRL1**	*Run Time (min):*	**15.00**
Vial Number:	**4**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**28/Jan/15 11:45**	*Sample Weight:*	**1.0000**

Chromatogram



mf

2-3-15

Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.314	0.0199194	0.262	4.48	9.50	0.0408
2		3.461	0.0015270	0.022	0.34	0.81	n.a.
3		4.138	0.0000672	0.001	0.02	0.02	n.a.
4	Cl	4.981	0.1872201	1.529	42.09	55.42	0.6217
5	NO2	6.101	0.0339895	0.232	7.64	8.40	0.0513
6		6.621	0.0000388	0.000	0.01	0.01	n.a.
7		7.841	0.0414857	0.083	9.33	3.02	n.a.
8	Br	8.664	0.0130501	0.066	2.93	2.40	0.1015
9	SO4	9.571	0.1147175	0.429	25.79	15.56	0.5658
10	NO3	10.381	0.0327488	0.134	7.36	4.86	0.0444
Total:			**0.445**	**2.759**	**100.00**	**100.00**	

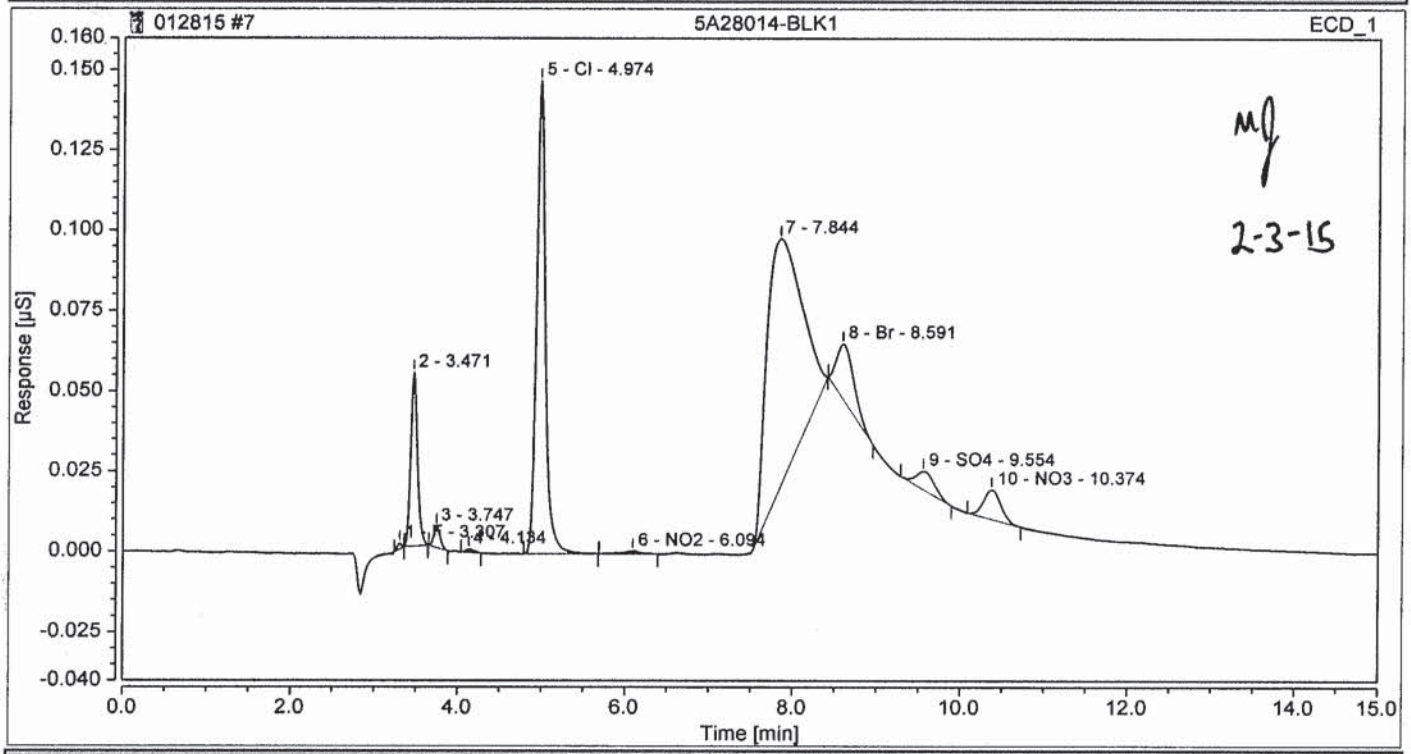
02/03/15

Chromatogram and Results

Injection Details

Injection Name:	**5A28014-BLK1**	*Run Time (min):*	**15.00**
Vial Number:	**7**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**28/Jan/15 12:39**	*Sample Weight:*	**1.0000**

Chromatogram



MJ 2-3-15

Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.307	0.0001068	0.002	0.16	0.57	0.0002
2		3.471	0.0051324	0.054	7.49	16.83	n.a.
3		3.747	0.0005965	0.007	0.87	2.07	n.a.
4		4.134	0.0001159	0.001	0.17	0.34	n.a.
5	Cl	4.974	0.0180425	0.147	26.32	45.87	0.0599
6	NO2	6.094	0.0002066	0.001	0.30	0.28	0.0003
7		7.844	0.0363559	0.077	53.03	24.08	n.a.
8	Br	8.591	0.0042499	0.017	6.20	5.34	0.0330
9	SO4	9.554	0.0014936	0.006	2.18	1.76	0.0074
10	NO3	10.374	0.0022534	0.009	3.29	2.87	0.0031
Total:			**0.069**	**0.321**	**100.00**	**100.00**	

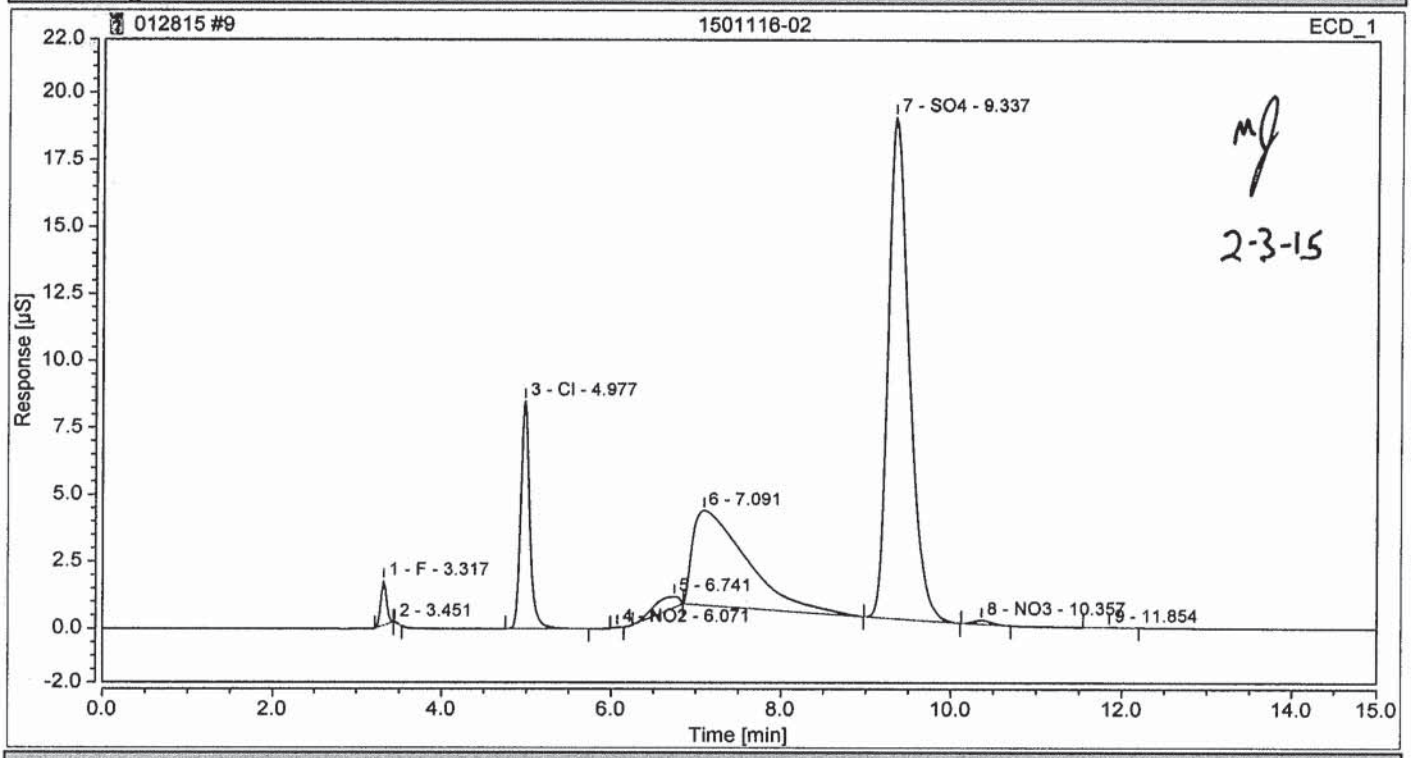
02/03/15

Chromatogram and Results

Injection Details

Injection Name:	**1501116-02**	*Run Time (min):*	**15.00**
Vial Number:	**9**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**28/Jan/15 13:14**	*Sample Weight:*	**1.0000**

Chromatogram



MJ 2-3-15

Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.317	0.1339159	1.653	1.42	5.01	0.2741
2		3.451	0.0022579	0.022	0.02	0.07	n.a.
3	Cl	4.977	1.0397331	8.495	11.05	25.73	3.4524
4	NO2	6.071	0.0008872	0.011	0.01	0.03	0.0013
5		6.741	0.1685475	0.406	1.79	1.23	n.a.
6		7.091	2.6323390	3.540	27.97	10.72	n.a.
n.a.	Br	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
7	SO4	9.337	5.3982647	18.737	57.35	56.75	26.6258
8	NO3	10.357	0.0351422	0.152	0.37	0.46	0.0476
9		11.854	0.0011261	0.004	0.01	0.01	n.a.
Total:			**9.412**	**33.019**	**100.00**	**100.00**	

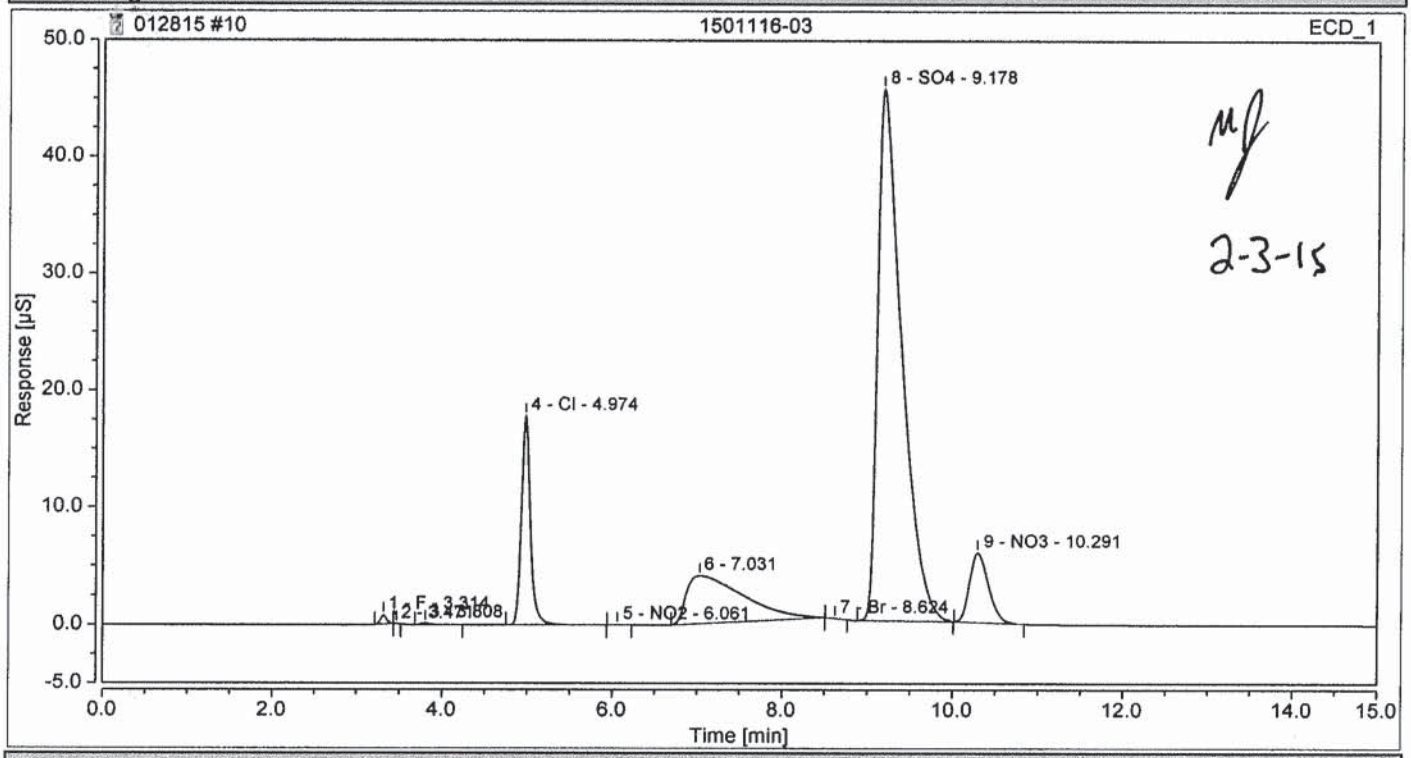
02/03/15

Chromatogram and Results

Injection Details

Injection Name:	**1501116-03**	*Run Time (min):*	**16.00**
Vial Number:	**10**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**28/Jan/15 13:32**	*Sample Weight:*	**1.0000**

Chromatogram



MJ 2-3-15

Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.314	0.0642210	0.784	0.29	1.06	0.1315
2		3.471	0.0003921	0.009	0.00	0.01	n.a.
3		3.808	0.0123814	0.123	0.06	0.17	n.a.
4	Cl	4.974	2.1883296	17.854	10.04	24.04	7.2662
5	NO2	6.061	0.0004152	0.003	0.00	0.00	0.0006
6		7.031	3.1641760	4.074	14.52	5.49	n.a.
7	Br	8.624	0.0012261	0.009	0.01	0.01	0.0095
8	SO4	9.178	14.8472993	45.489	68.11	61.26	73.2310
9	NO3	10.291	1.5197198	5.915	6.97	7.97	2.0605
Total:			**21.798**	**74.260**	**100.00**	**100.00**	

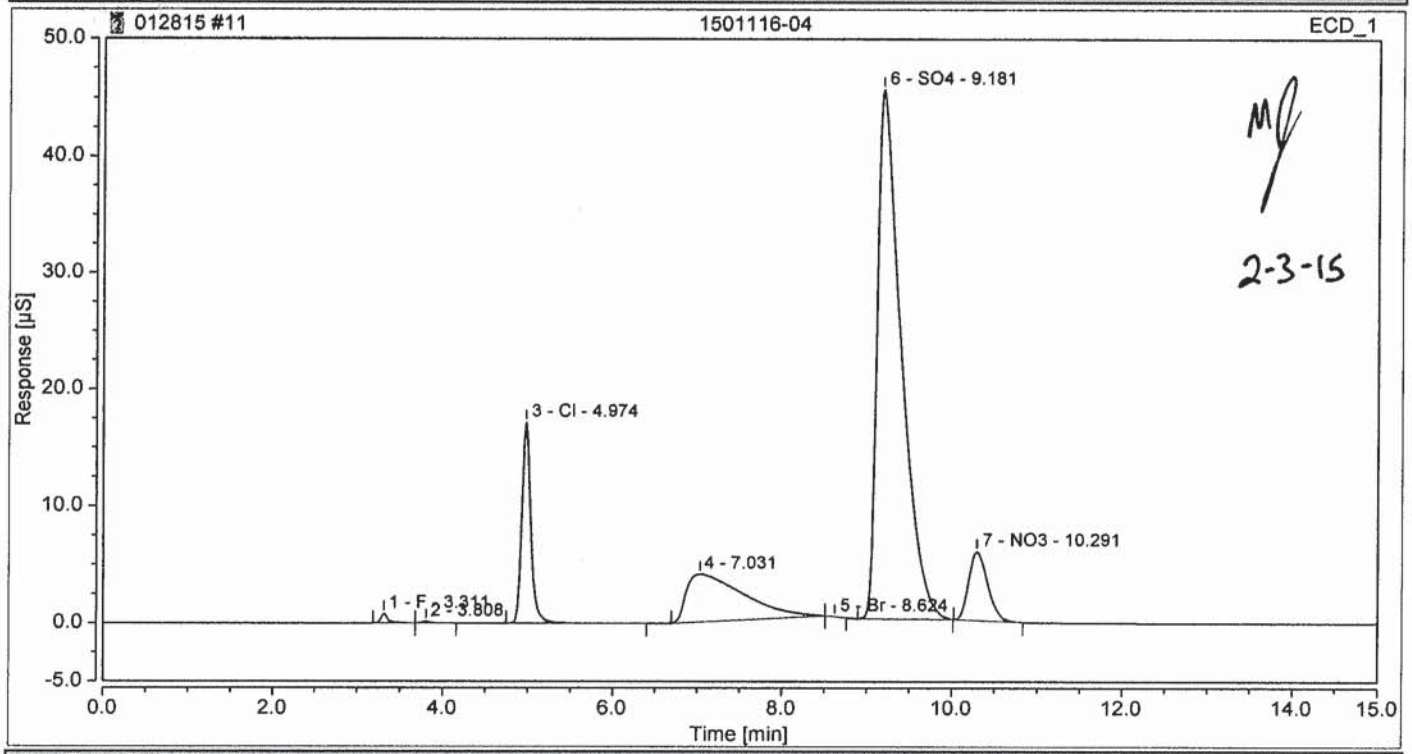
02/03/15

Chromatogram and Results

Injection Details

Injection Name:	**1501116-04**	*Run Time (min):*	**15.00**
Vial Number:	**11**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**28/Jan/15 13:50**	*Sample Weight:*	**1.0000**

Chromatogram



MJ 2-3-15

Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.311	0.0794329	0.818	0.37	1.11	0.1626
2		3.808	0.0121869	0.122	0.06	0.17	n.a.
3	Cl	4.974	2.1040347	17.156	9.69	23.38	6.9863
n.a.	NO2	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4		7.031	3.1970429	4.089	14.73	5.57	n.a.
5	Br	8.624	0.0010612	0.008	0.00	0.01	0.0083
6	SO4	9.181	14.8018602	45.286	68.19	61.72	73.0069
7	NO3	10.291	1.5099414	5.889	6.96	8.03	2.0473
Total:			**21.706**	**73.367**	**100.00**	**100.00**	

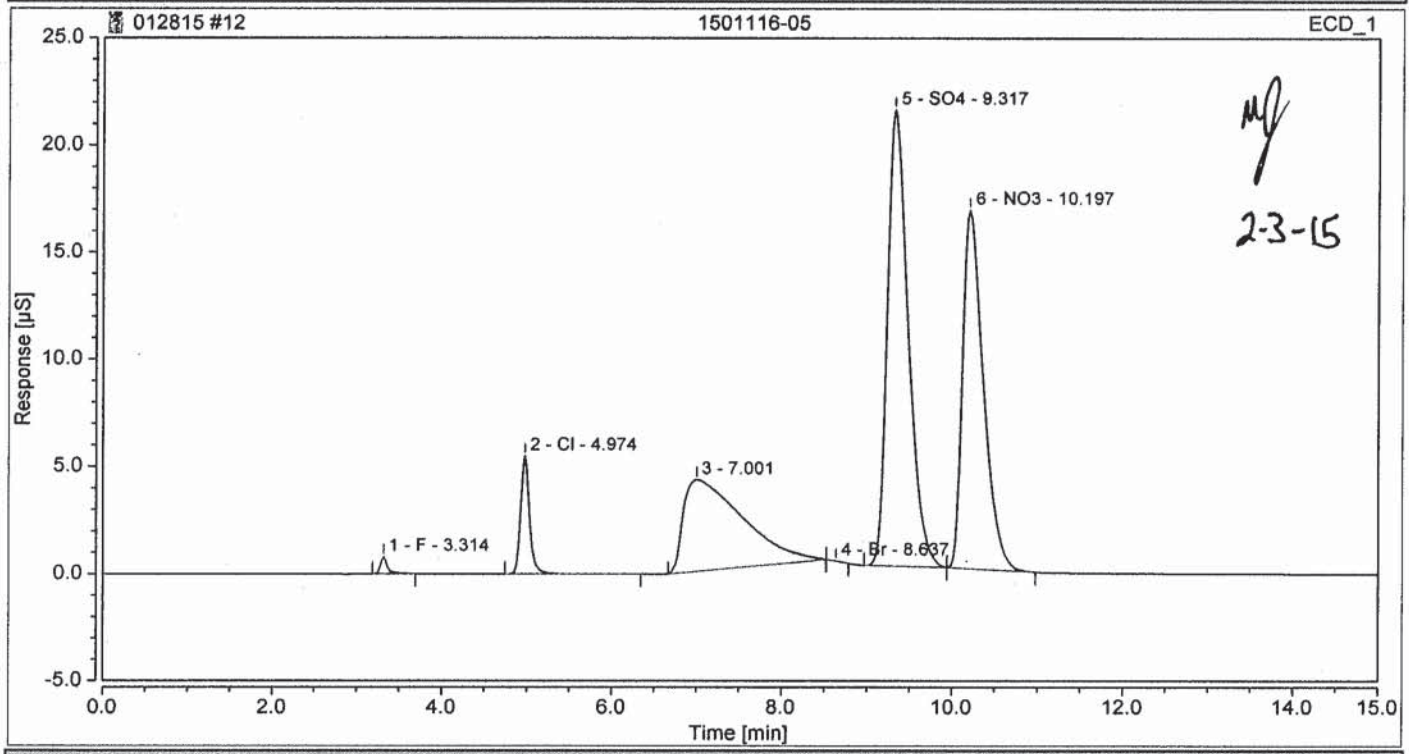
02/03/15

Chromatogram and Results

Injection Details

Injection Name:	**1501116-05**	*Run Time (min):*	**15.00**
Vial Number:	**12**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**28/Jan/15 14:08**	*Sample Weight:*	**1.0000**

Chromatogram



MJ 2-3-15

Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.314	0.0772236	0.797	0.52	1.64	0.1581
2	Cl	4.974	0.6685268	5.496	4.47	11.32	2.2198
n.a.	NO2	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3		7.001	3.4500030	4.260	23.05	8.77	n.a.
4	Br	8.637	0.0012865	0.009	0.01	0.02	0.0100
5	SO4	9.317	6.0501469	21.272	40.43	43.81	29.8410
6	NO3	10.197	4.7191179	16.719	31.53	34.43	6.3985
Total:			**14.966**	**48.554**	**100.00**	**100.00**	

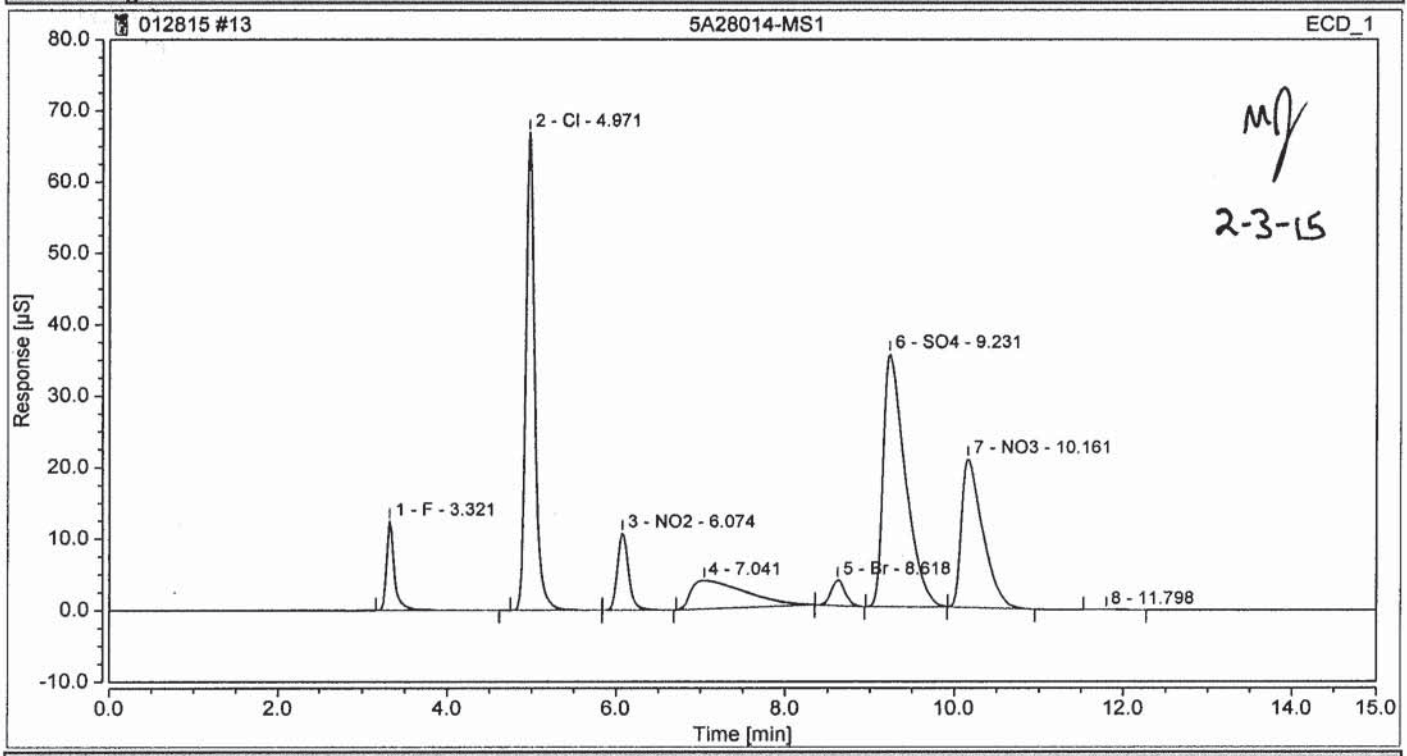
02/03/15

Chromatogram and Results

Injection Details

Injection Name:	**5A28014-MS1**	*Run Time (min):*	**15.00**
Vial Number:	**13**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**28/Jan/15 14:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.321	1.3417479	12.480	4.22	8.10	2.7465
2	Cl	4.971	8.3085110	66.958	26.12	43.48	27.5880
3	NO2	6.074	1.6404665	10.788	5.16	7.00	2.4780
4		7.041	2.9459120	3.984	9.26	2.59	n.a.
5	Br	8.618	0.6875107	3.594	2.16	2.33	5.3454
6	SO4	9.231	10.7799334	35.416	33.89	23.00	53.1697
7	NO3	10.161	6.1051350	20.786	19.19	13.50	8.2777
8		11.798	0.0028388	0.008	0.01	0.01	n.a.
Total:			**31.812**	**154.014**	**100.00**	**100.00**	

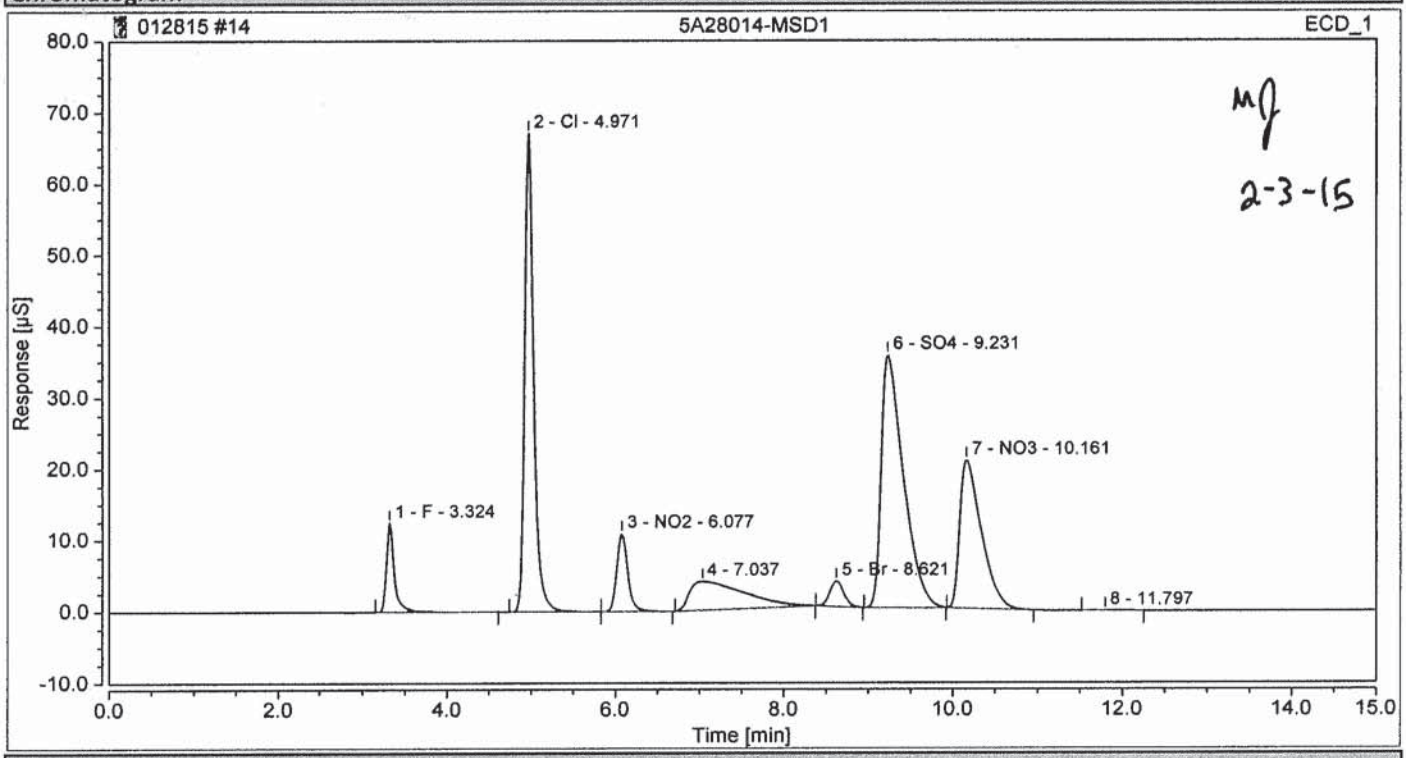
02/03/15

Chromatogram and Results

Injection Details

Injection Name:	**5A28014-MSD1**	*Run Time (min):*	**15.00**
Vial Number:	**14**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**28/Jan/15 14:44**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.324	1.3456934	12.462	4.21	8.08	2.7546
2	Cl	4.971	8.3348977	67.090	26.09	43.48	27.6756
3	NO2	6.077	1.6551506	10.911	5.18	7.07	2.5002
4		7.037	3.0002085	4.016	9.39	2.60	n.a.
5	Br	8.621	0.6852469	3.587	2.15	2.32	5.3278
6	SO4	9.231	10.7998434	35.442	33.81	22.97	53.2679
7	NO3	10.161	6.1188597	20.786	19.16	13.47	8.2963
8		11.797	0.0027357	0.008	0.01	0.00	n.a.
Total:			**31.943**	**154.301**	**100.00**	**100.00**	

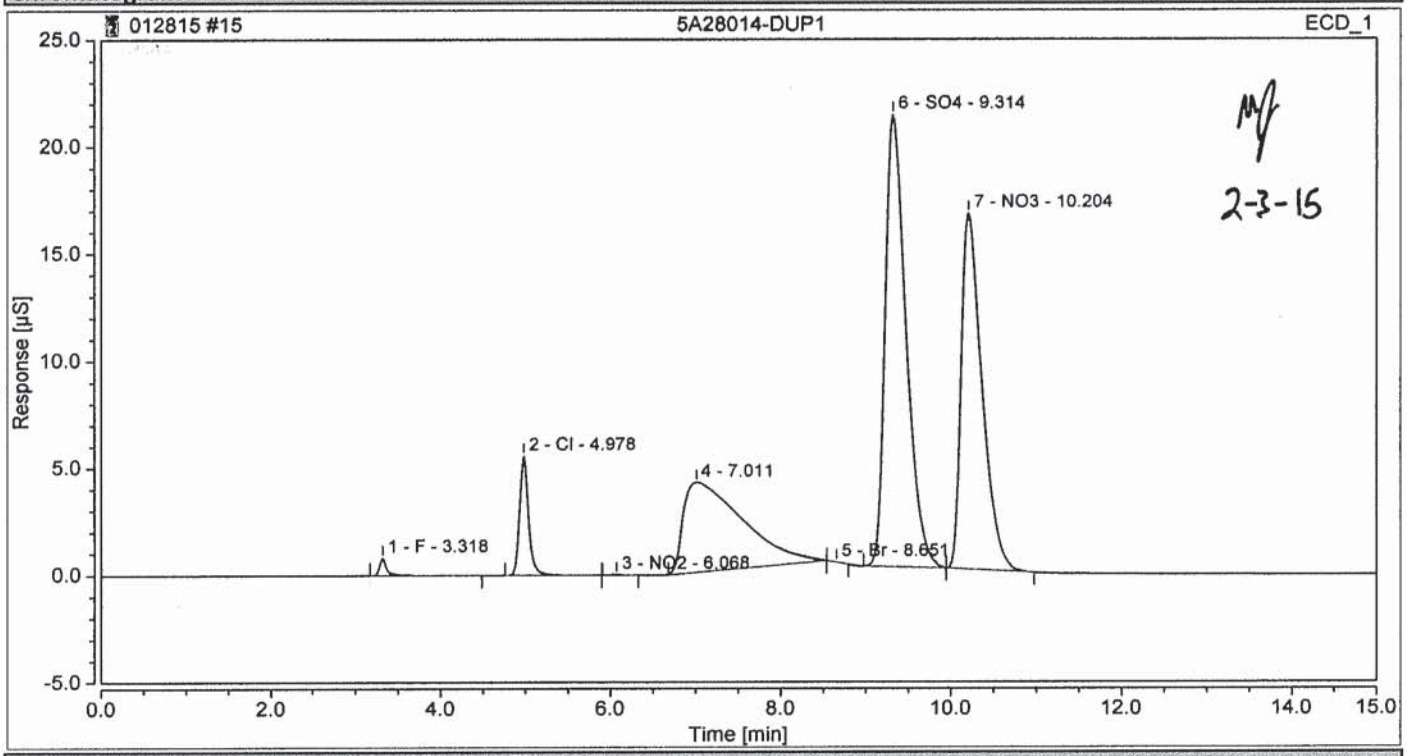
02/03/15

Chromatogram and Results

Injection Details

Injection Name:	**5A28014-DUP1**	*Run Time (min):*	**15.00**
Vial Number:	**15**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**28/Jan/15 15:01**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.318	0.0819301	0.809	0.55	1.67	0.1677
2	Cl	4.978	0.6783244	5.574	4.56	11.53	2.2523
3	NO2	6.068	0.0019059	0.014	0.01	0.03	0.0029
4		7.011	3.3801961	4.206	22.73	8.70	n.a.
5	Br	8.651	0.0015471	0.011	0.01	0.02	0.0120
6	SO4	9.314	6.0231020	21.117	40.51	43.68	29.7076
7	NO3	10.204	4.7009818	16.608	31.62	34.36	6.3739
Total:			**14.868**	**48.339**	**100.00**	**100.00**	

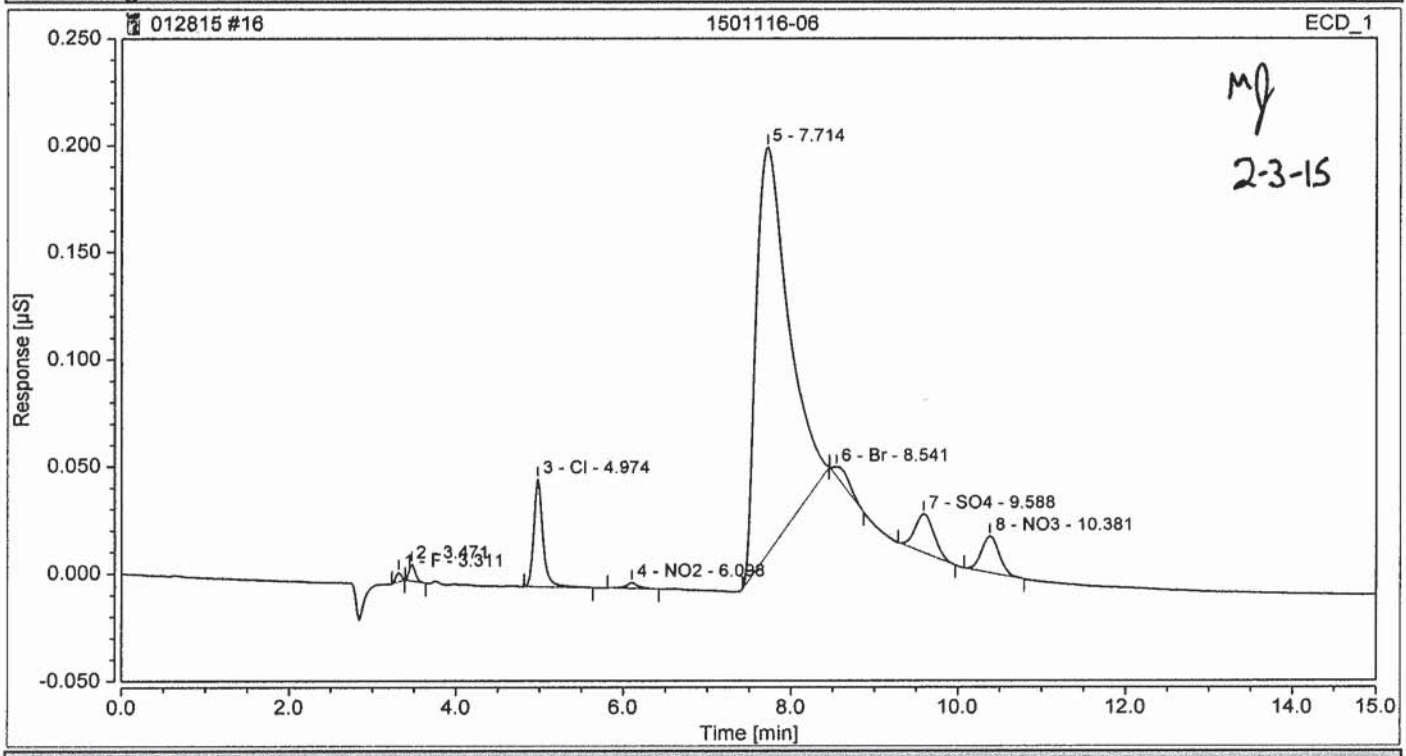
02/03/15

Chromatogram and Results

Injection Details

Injection Name:	**1501116-06**	*Run Time (min):*	**15.00**
Vial Number:	**16**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**28/Jan/15 15:19**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.311	0.0003067	0.004	0.30	1.49	0.0006
2		3.471	0.0007107	0.008	0.69	2.67	n.a.
3	Cl	4.974	0.0063648	0.050	6.16	17.02	0.0211
4	NO2	6.098	0.0004518	0.003	0.44	0.92	0.0007
5		7.714	0.0849949	0.190	82.27	64.49	n.a.
6	Br	8.541	0.0014288	0.004	1.38	1.50	0.0111
7	SO4	9.588	0.0048528	0.018	4.70	6.14	0.0239
8	NO3	10.381	0.0041965	0.017	4.06	5.78	0.0057
Total:			**0.103**	**0.295**	**100.00**	**100.00**	

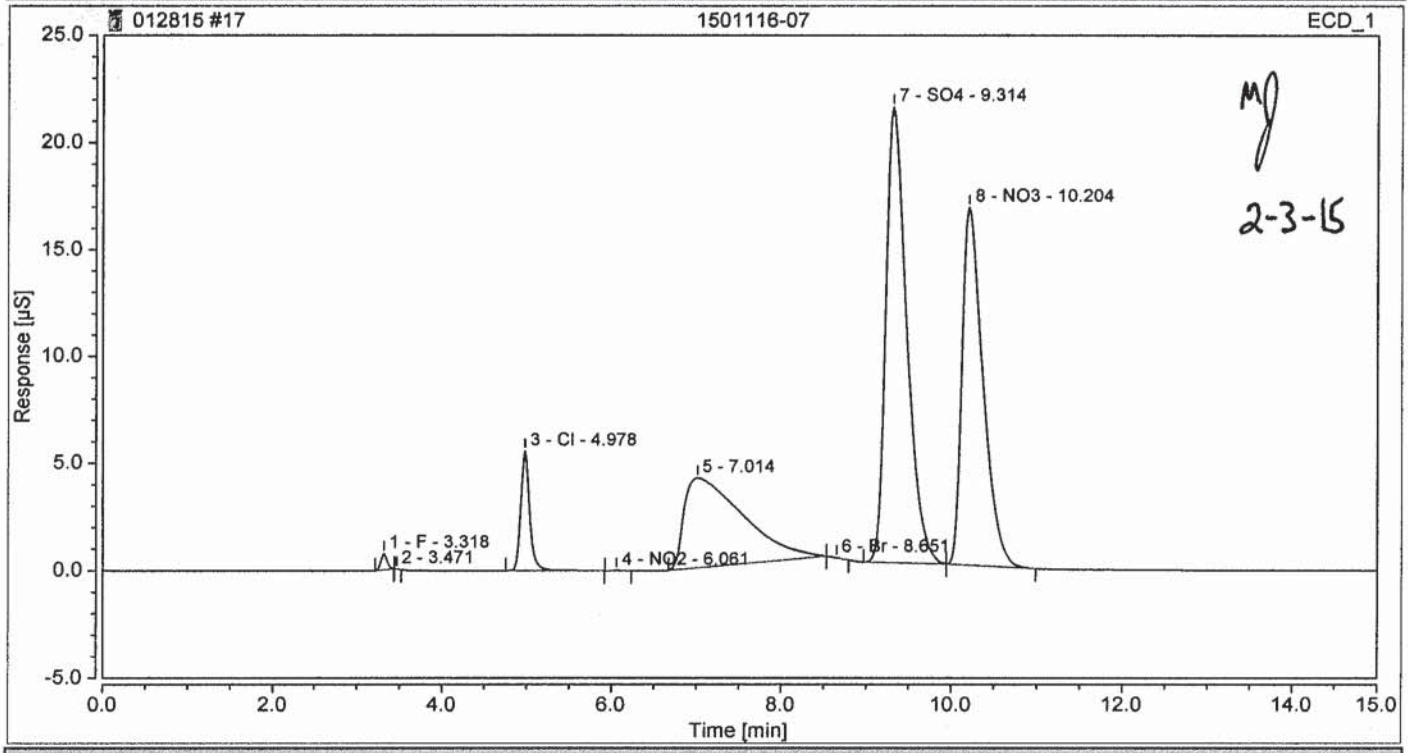
02/03/15

Chromatogram and Results

Injection Details

Injection Name:	**1501116-07**	*Run Time (min):*	**15.00**
Vial Number:	**17**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**28/Jan/15 15:37**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.318	0.0622332	0.749	0.42	1.54	0.1274
2		3.471	0.0002663	0.006	0.00	0.01	n.a.
3	Cl	4.978	0.6784547	5.563	4.54	11.46	2.2528
4	NO2	6.061	0.0003430	0.003	0.00	0.01	0.0005
5		7.014	3.3593554	4.192	22.49	8.63	n.a.
6	Br	8.651	0.0014653	0.011	0.01	0.02	0.0114
7	SO4	9.314	6.0833686	21.302	40.72	43.88	30.0049
8	NO3	10.204	4.7525342	16.719	31.82	34.44	6.4438
Total:			**14.938**	**48.543**	**100.00**	**100.00**	

02/03/15

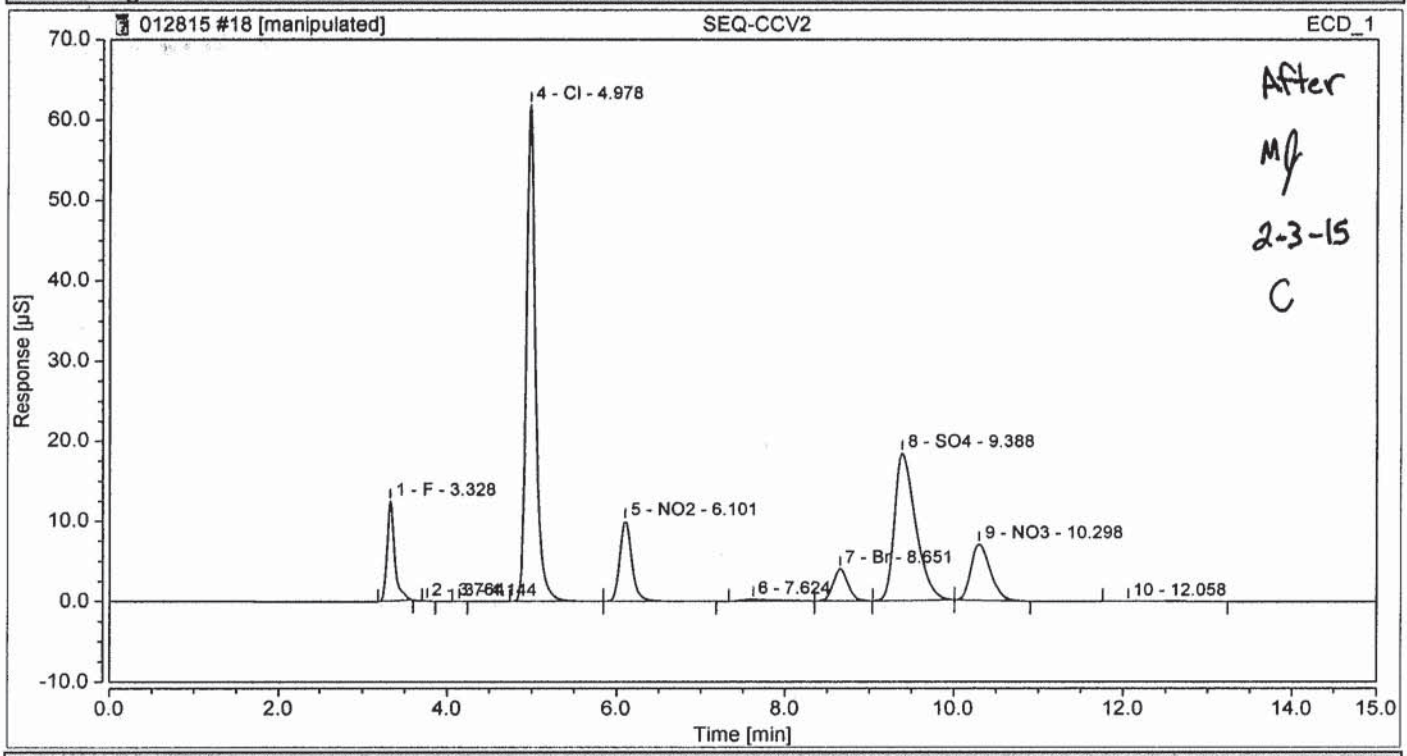
$SO_4 = (6.0833686 / .20274598) = 30.00487 \left(\frac{5mL}{5mL}\right) = 30.00487 \frac{mg}{L}$

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CCV2**	*Run Time (min):*	**15.00**
Vial Number:	**18**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**28/Jan/15 15:55**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.328	1.2749369	12.419	6.75	10.90	2.6098
2		3.764	0.0004641	0.006	0.00	0.00	n.a.
3		4.144	0.0000865	0.001	0.00	0.00	n.a.
4	Cl	4.978	7.8386517	61.873	41.53	54.31	26.0279
5	NO2	6.101	1.6546590	10.012	8.77	8.79	2.4995
6		7.624	0.1033691	0.230	0.55	0.20	n.a.
7	Br	8.651	0.8071731	3.983	4.28	3.50	6.2758
8	SO4	9.388	5.3480048	18.399	28.33	16.15	26.3779
9	NO3	10.298	1.8464743	6.994	9.78	6.14	2.5036
10		12.058	0.0008805	0.001	0.00	0.00	n.a.
Total:			**18.875**	**113.917**	**100.00**	**100.00**	

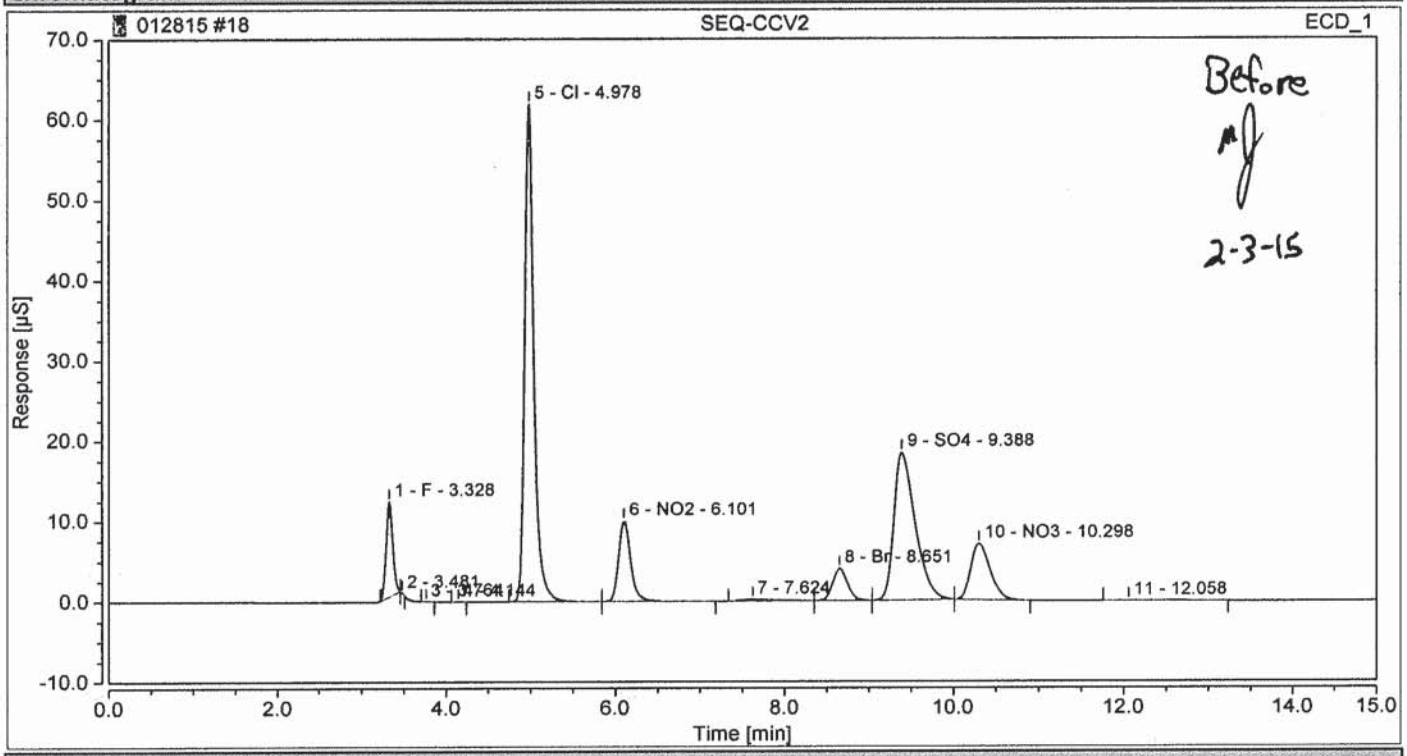
02/03/15

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CCV2**	*Run Time (min):*	**15.00**
Vial Number:	**18**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**28/Jan/15 15:55**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

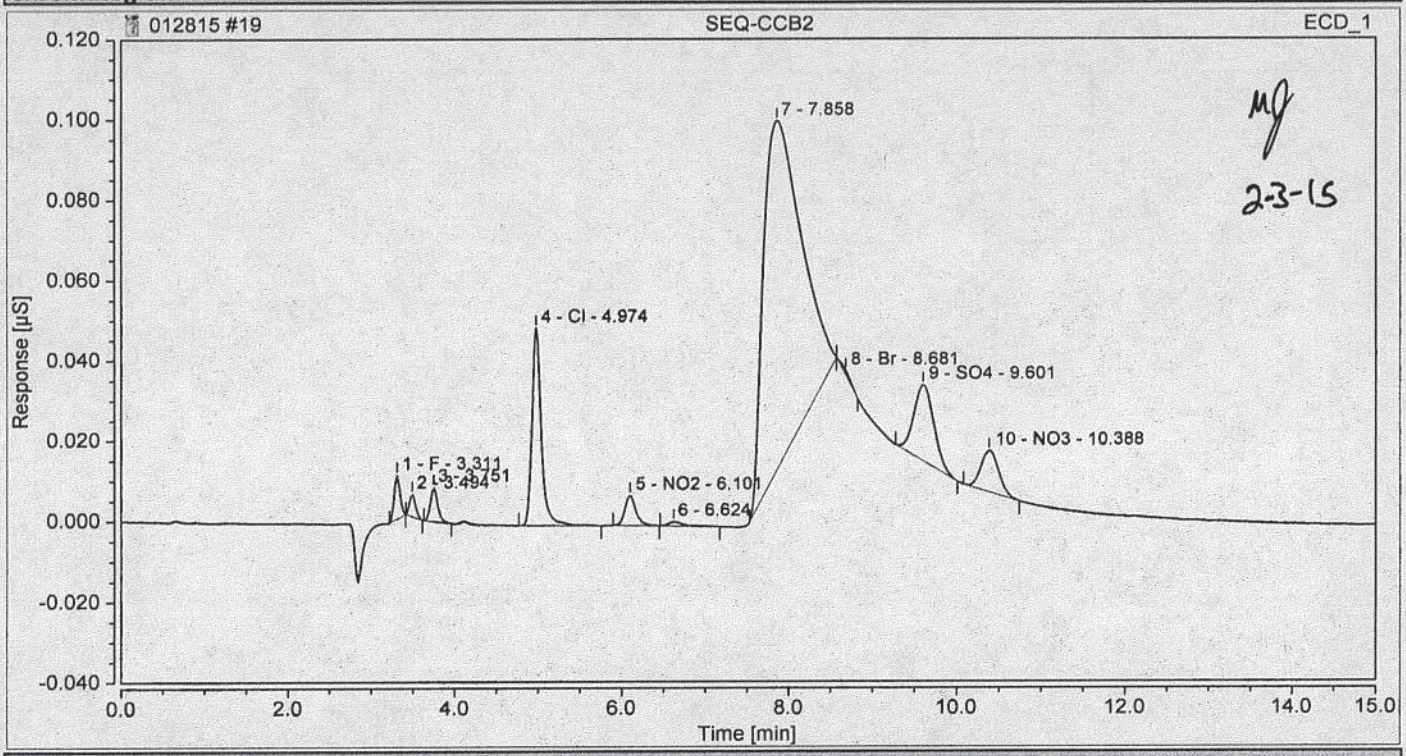
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.328	1.0544753	11.833	5.65	10.44	2.1585
2		3.481	0.0010304	0.032	0.01	0.03	n.a.
3		3.764	0.0004641	0.006	0.00	0.00	n.a.
4		4.144	0.0000865	0.001	0.00	0.00	n.a.
5	Cl	4.978	7.8386517	61.873	42.02	54.58	26.0279
6	NO2	6.101	1.6546590	10.012	8.87	8.83	2.4995
7		7.624	0.1033691	0.230	0.55	0.20	n.a.
8	Br	8.651	0.8071731	3.983	4.33	3.51	6.2758
9	SO4	9.388	5.3480048	18.399	28.67	16.23	26.3779
10	NO3	10.298	1.8464743	6.994	9.90	6.17	2.5036
11		12.058	0.0008805	0.001	0.00	0.00	n.a.
Total:			**18.655**	**113.364**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CCB2**	*Run Time (min):*	**15.00**
Vial Number:	**19**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**28/Jan/15 16:13**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.311	0.0008465	0.011	1.35	5.44	0.0017
2		3.494	0.0004856	0.006	0.77	2.82	n.a.
3		3.751	0.0008652	0.009	1.38	4.27	n.a.
4	Cl	4.974	0.0062863	0.049	10.01	24.54	0.0209
5	NO2	6.101	0.0011521	0.008	1.83	3.76	0.0017
6		6.624	0.0002340	0.001	0.37	0.55	n.a.
7		7.858	0.0450688	0.087	71.73	43.40	n.a.
8	Br	8.681	0.0001811	0.001	0.29	0.66	0.0014
9	SO4	9.601	0.0051986	0.019	8.27	9.44	0.0256
10	NO3	10.388	0.0025087	0.010	3.99	5.13	0.0034
Total:			**0.063**	**0.201**	**100.00**	**100.00**	

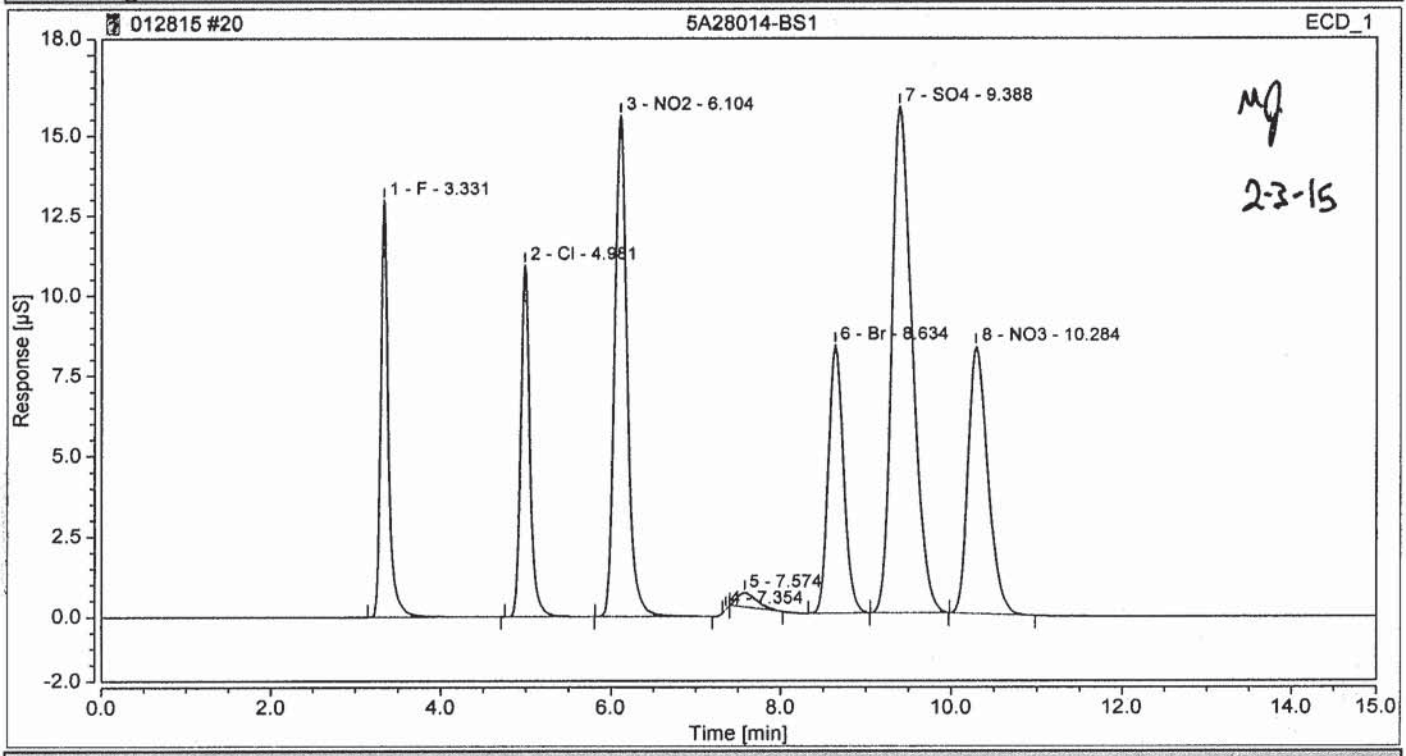
02/03/15

Chromatogram and Results

Injection Details

Injection Name:	**5A28014-BS1**	*Run Time (min):*	**15.00**
Vial Number:	**20**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**28/Jan/15 16:31**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.331	1.3592897	12.986	9.79	17.94	2.7824
2	Cl	4.981	1.3652617	10.943	9.83	15.12	4.5333
3	NO2	6.104	2.6582830	15.604	19.14	21.56	4.0155
4		7.354	0.0002334	0.005	0.00	0.01	n.a.
5		7.574	0.1220956	0.439	0.88	0.61	n.a.
6	Br	8.634	1.7270116	8.334	12.44	11.51	13.4275
7	SO4	9.388	4.4244645	15.774	31.86	21.79	21.8227
8	NO3	10.284	2.2293848	8.306	16.05	11.47	3.0227
Total:			**13.886**	**72.390**	**100.00**	**100.00**	

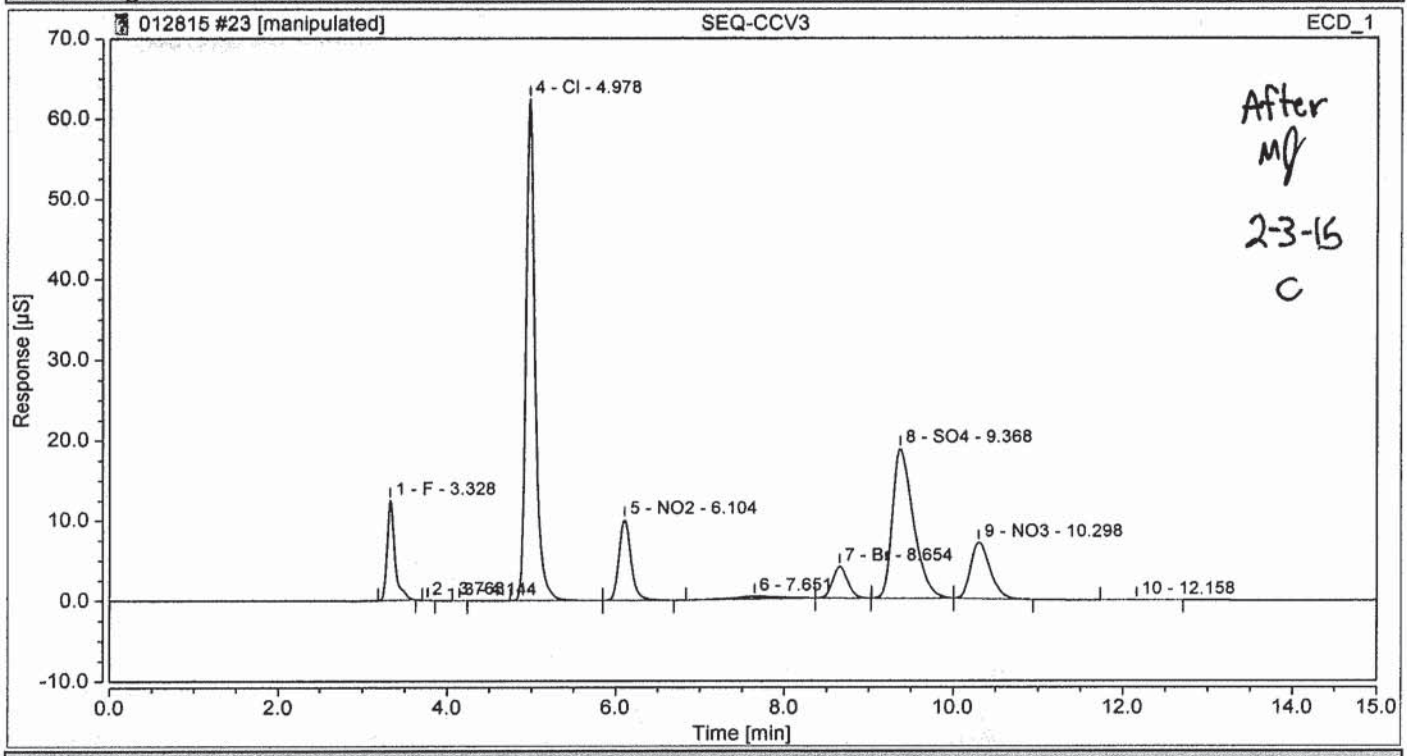
02/03/15

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CCV3**	*Run Time (min):*	**15.00**
Vial Number:	**23**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**28/Jan/15 17:24**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.328	1.3093604	12.507	6.84	10.87	2.6802
2		3.768	0.0004202	0.005	0.00	0.00	n.a.
3		4.144	0.0000962	0.001	0.00	0.00	n.a.
4	Cl	4.978	7.9142900	62.425	41.33	54.28	26.2790
5	NO2	6.104	1.6584268	10.099	8.66	8.78	2.5052
6		7.651	0.2144675	0.338	1.12	0.29	n.a.
7	Br	8.654	0.8082035	3.950	4.22	3.43	6.2838
8	SO4	9.368	5.3810543	18.689	28.10	16.25	26.5409
9	NO3	10.298	1.8602057	6.995	9.71	6.08	2.5222
10		12.158	0.0016333	0.003	0.01	0.00	n.a.
Total:			**19.148**	**115.013**	**100.00**	**100.00**	

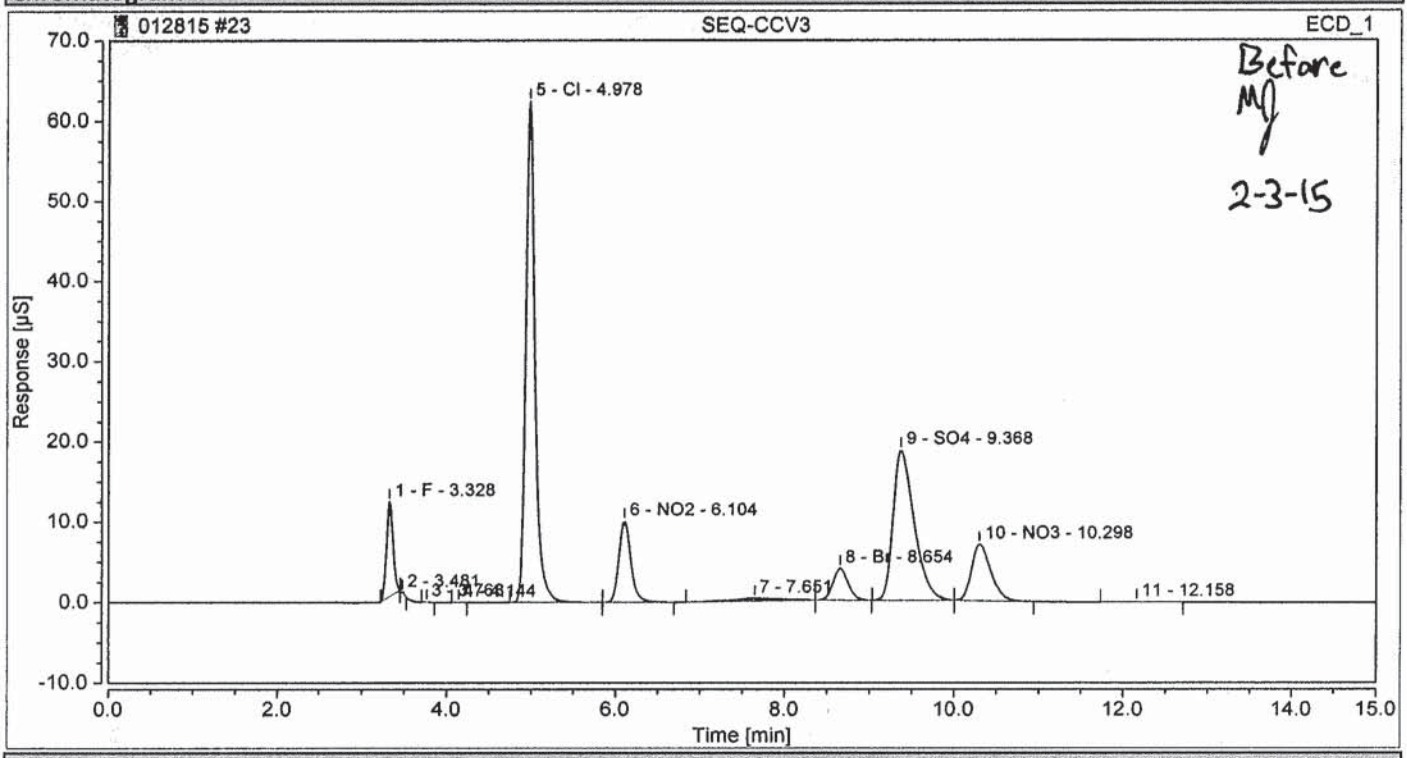
02/03/15

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CCV3**	*Run Time (min):*	**15.00**
Vial Number:	**23**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**28/Jan/15 17:24**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.328	1.0395831	11.803	5.51	10.32	2.1280
2		3.481	0.0030909	0.078	0.02	0.07	n.a.
3		3.768	0.0004202	0.005	0.00	0.00	n.a.
4		4.144	0.0000962	0.001	0.00	0.00	n.a.
5	Cl	4.978	7.9142900	62.425	41.92	54.57	26.2790
6	NO2	6.104	1.6584268	10.099	8.78	8.83	2.5052
7		7.651	0.2144675	0.338	1.14	0.30	n.a.
8	Br	8.654	0.8082035	3.950	4.28	3.45	6.2838
9	SO4	9.368	5.3810543	18.689	28.50	16.34	26.5409
10	NO3	10.298	1.8602057	6.995	9.85	6.12	2.5222
11		12.158	0.0016333	0.003	0.01	0.00	n.a.
Total:			**18.881**	**114.387**	**100.00**	**100.00**	

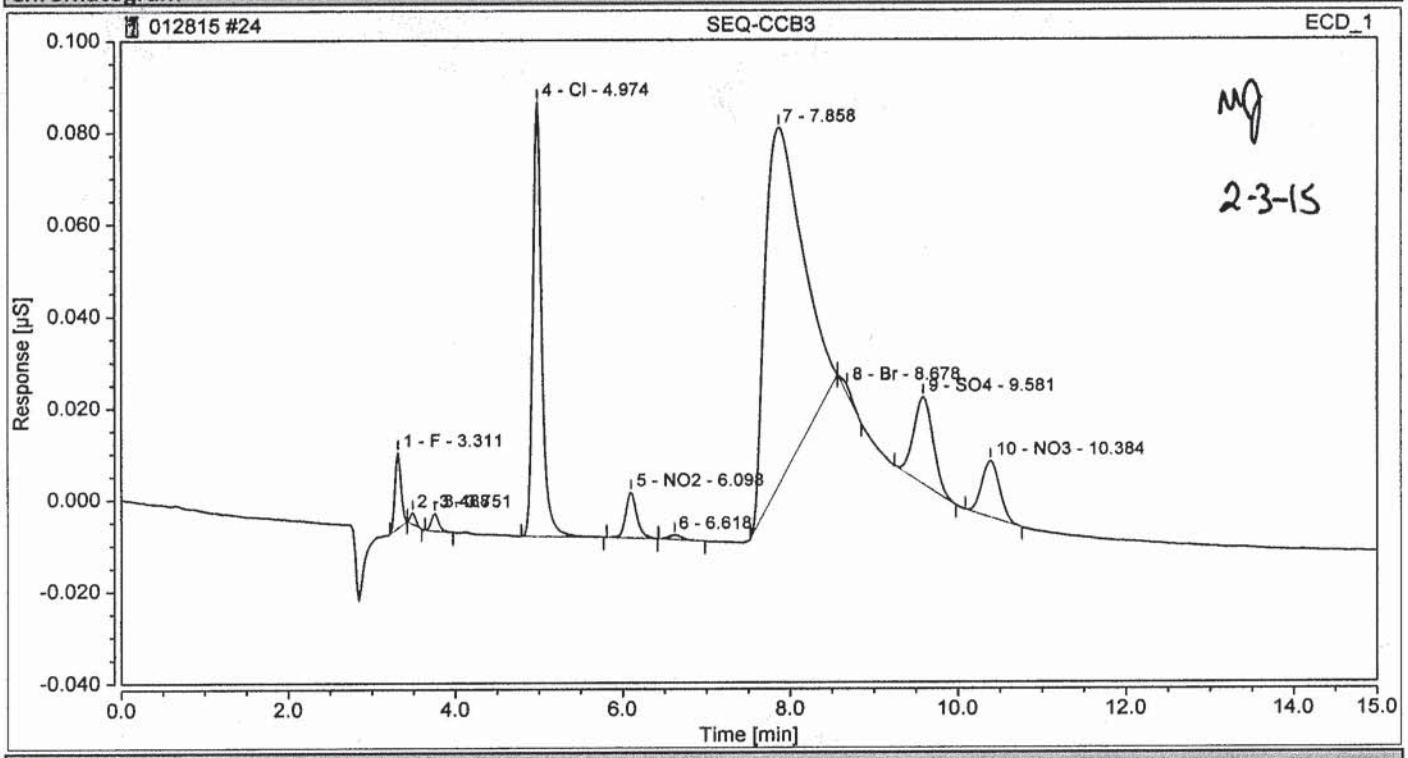
02/03/15

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CCB3**	*Run Time (min):*	**15.00**
Vial Number:	**24**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**28/Jan/15 17:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.311	0.0013176	0.017	2.07	6.90	0.0027
2		3.488	0.0001961	0.003	0.31	1.04	n.a.
3		3.751	0.0003972	0.004	0.62	1.62	n.a.
4	Cl	4.974	0.0118085	0.095	18.56	39.49	0.0392
5	NO2	6.098	0.0015316	0.010	2.41	4.18	0.0023
6		6.618	0.0001842	0.001	0.29	0.43	n.a.
7		7.858	0.0397641	0.078	62.51	32.50	n.a.
8	Br	8.678	0.0002784	0.002	0.44	0.79	0.0022
9	SO4	9.581	0.0051124	0.019	8.04	7.91	0.0252
10	NO3	10.384	0.0030261	0.012	4.76	5.14	0.0041
Total:			**0.064**	**0.240**	**100.00**	**100.00**	

02/03/15

	Type	Analysis	Sample Name	Sample ID	Dilution	Result	Comment	Status
1	Unknown	NPOC	SEQ-CCV	15A0718 TV=25ppm	1.000	NPOC:28.31mg/L	9060A Quad	Completed
2	Unknown	NPOC	SEQ-CCB	QC	1.000	NPOC:0.1424mg/L		Completed
3	Unknown	NPOC	5B05019-BLK1	QC	1.000	NPOC:0.1175mg/L		Completed
4	Unknown	NPOC	5B05019-BS1	15A0426 TV=25ppm	1.000	NPOC:27.87mg/L		Completed
5	Unknown	NPOC	1501116-02	CB&I	1.000	NPOC:0.8343mg/L		Completed
6	Unknown	NPOC	1501116-03	CB&I	1.000	NPOC:0.5685mg/L		Completed
7	Unknown	NPOC	1501116-04	CB&I	1.000	NPOC:0.5672mg/L		Completed
8	Unknown	NPOC	1501116-05	CB&I	1.000	NPOC:0.6652mg/L		Completed
9	Unknown	NPOC	5B05019-MS1	CB&I	1.000	NPOC:16.44mg/L	15ppm	Completed
10	Unknown	NPOC	5B05019-MSD1	CB&I	1.000	NPOC:15.80mg/L	15ppm	Completed
11	Unknown	NPOC	1501116-06	CB&I	1.000	NPOC:0.2240mg/L		Completed
12	Unknown	NPOC	1501116-07	CB&I	1.000	NPOC:0.6794mg/L		Completed
13	Unknown	NPOC	1501124-03	CB&I	1.000	NPOC:0.3623mg/L		Completed
14	Unknown	NPOC	1501124-04	CB&I	1.000	NPOC:0.4133mg/L		Completed
15	Unknown	NPOC	1501124-05	CB&I	1.000	NPOC:0.5264mg/L		Completed
16	Unknown	NPOC	SEQ-CCV	15A0719 TV=50ppm	1.000	NPOC:57.11mg/L		Completed
17	Unknown	NPOC	SEQ-CCB	QC	1.000	NPOC:0.1265mg/L		Completed
18	Unknown	NPOC	1501134-03	CB&I	1.000	NPOC:1.638mg/L		Completed
19	Unknown	NPOC	1502012-01	ENSAFE	1.000	NPOC:5.687mg/L		Completed
20	Unknown	NPOC	1502012-02	ENSAFE	1.000	NPOC:3.036mg/L		Completed
21	Unknown	NPOC	1502026-01	ENSAFE	1.000	NPOC:7.547mg/L		Completed
22	Unknown	NPOC	5B05019-MS2	ENSAFE	1.000	NPOC:23.53mg/L	15ppm	Completed
23	Unknown	NPOC	5B05019-MSD2	ENSAFE	1.000	NPOC:22.94mg/L	15ppm	Completed
24	Unknown	NPOC	1502026-02	ENSAFE	1.000	NPOC:4.244mg/L		Completed
25	Unknown	NPOC	SEQ-CCV	15A0718 TV=25ppm	1.000	NPOC:24.08mg/L		Completed
26	Unknown	NPOC	SEQ-CCB	QC	1.000	NPOC:0.1185mg/L		Completed

2-5-2014 Analysis

Seq.# 5B04116

Cal. # 5023004

2nd ✓

2026-02 = $\frac{49.06}{11.56}$ 4.24 mg/L

2nd vBLR
2/12/15

Instr.Information

System: Shimadzu TOC-Vws
Detector: Wet Chemical

Sample

Sample Name: SEQ-CCV
Sample ID: 15A0718 TV=25ppm
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status: Completed
Chk. Result:

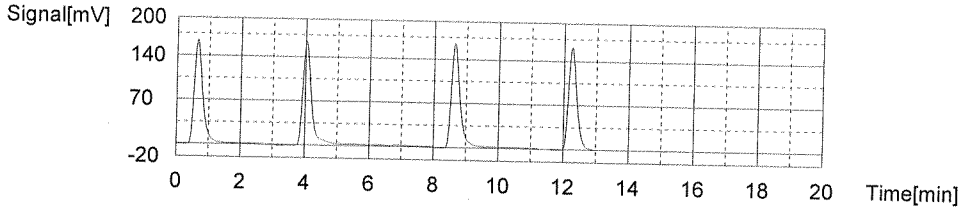
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:28.31mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	328.5	28.42mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 3:49:52 PM
2	344.8	29.83mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 3:56:51 PM
3	339.3	29.35mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 4:02:51 PM
4	296.6	25.66mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 4:07:22 PM

Mean Area 327.3
Mean Conc. 28.31mg/L



Sample

Sample Name: SEQ-CCB
Sample ID: QC
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status: Completed
Chk. Result:

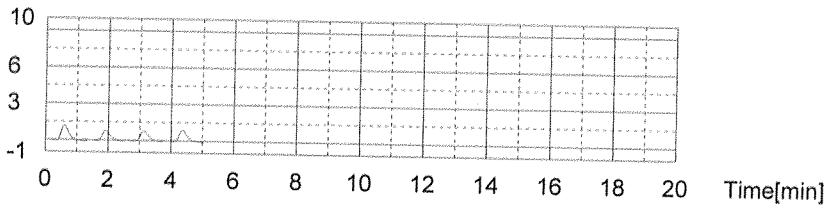
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.1424mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.134	0.1846mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 4:17:33 PM
2	1.379	0.1193mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 4:21:09 PM
3	1.470	0.1272mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 4:24:46 PM
4	1.600	0.1384mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 4:29:17 PM

Mean Area 1.646
Mean Conc. 0.1424mg/L



Sample

Sample Name: 5B05019-BLK1
Sample ID: QC
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

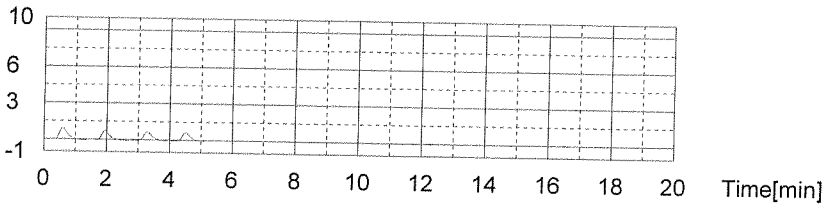
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.1175mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.641	0.1420mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 4:39:30 PM
2	1.374	0.1189mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 4:43:13 PM
3	1.234	0.1068mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 4:46:50 PM
4	1.182	0.1023mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 4:51:21 PM

Mean Area 1.358
Mean Conc. 0.1175mg/L



Sample

Sample Name: 5B05019-BS1
Sample ID: 15A0426 TV=25ppm
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

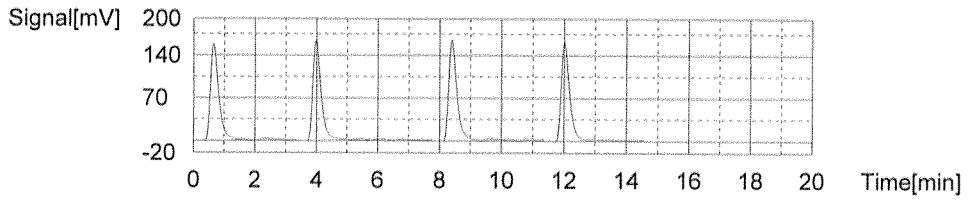
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:27.87mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	311.3	26.93mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 5:03:33 PM
2	334.0	28.89mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 5:10:31 PM
3	327.8	28.36mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 5:17:14 PM
4	315.6	27.30mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 5:22:59 PM

Mean Area 322.2
Mean Conc. 27.87mg/L



Sample

Sample Name: 1501116-02
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

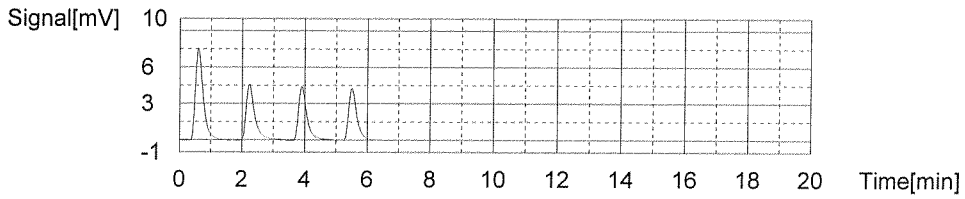
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.8343mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	13.54	1.171mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 5:35:35 PM
2	8.886	0.7687mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 5:39:38 PM
3	8.371	0.7242mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 5:43:37 PM
4	7.780	0.6731mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 5:48:08 PM

Mean Area 9.644
Mean Conc. 0.8343mg/L



Sample

Sample Name: 1501116-03
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

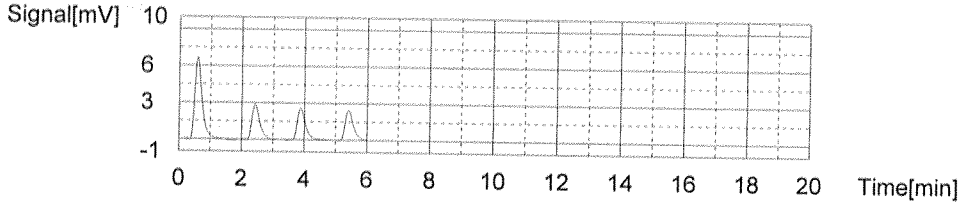
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.5685mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	11.50	0.9949mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 5:58:49 PM
2	5.263	0.4553mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:02:39 PM
3	4.902	0.4241mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:06:34 PM
4	4.620	0.3997mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:11:05 PM

Mean Area 6.571
Mean Conc. 0.5685mg/L



Sample

Sample Name: 1501116-04
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

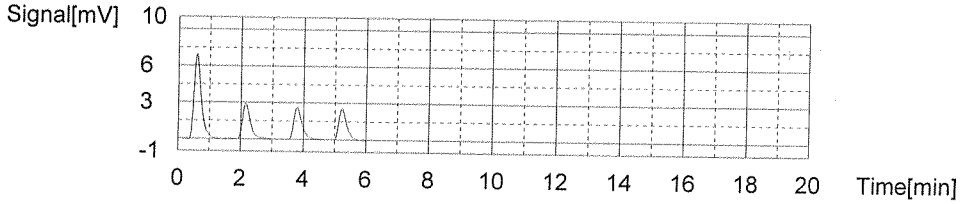
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.5672mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	11.48	0.9931mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:21:30 PM
2	5.273	0.4562mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:25:31 PM
3	4.870	0.4213mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:29:20 PM
4	4.604	0.3983mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:33:51 PM

Mean Area 6.557
Mean Conc. 0.5672mg/L



Sample

Sample Name: 1501116-05
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

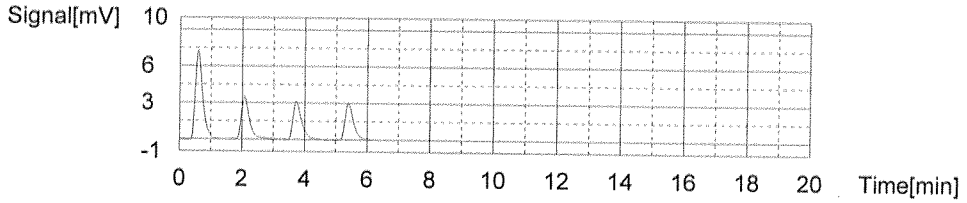
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.6652mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	12.43	1.075mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:44:11 PM
2	6.360	0.5502mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:48:13 PM
3	6.260	0.5416mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:52:16 PM
4	5.709	0.4939mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:56:47 PM

Mean Area 7.690
Mean Conc. 0.6652mg/L



Sample

Sample Name: 5B05019-MS1
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

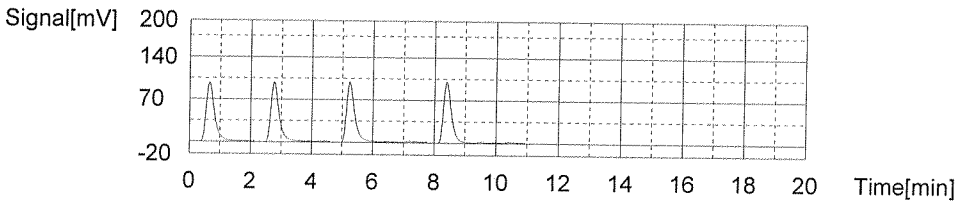
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:16.44mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	189.0	16.35mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 7:07:46 PM
2	190.4	16.47mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 7:12:38 PM
3	190.7	16.50mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 7:18:10 PM
4	190.0	16.44mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 7:24:34 PM

Mean Area 190.0
Mean Conc. 16.44mg/L



Sample

Sample Name: 5B05019-MSD1
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

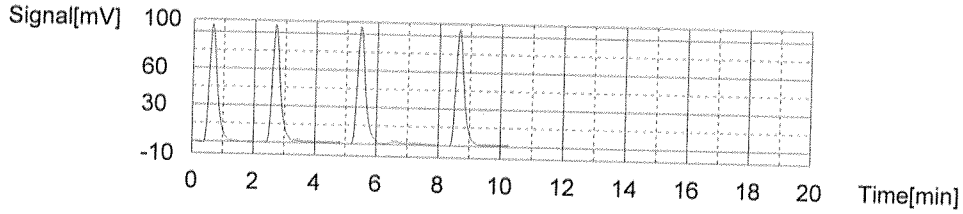
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:15.80mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	181.5	15.70mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 7:37:31 PM
2	184.6	15.97mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 7:42:41 PM
3	185.2	16.02mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 7:48:15 PM
4	179.2	15.50mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 7:54:38 PM

Mean Area 182.6
Mean Conc. 15.80mg/L



Sample

Sample Name: 1501116-06
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

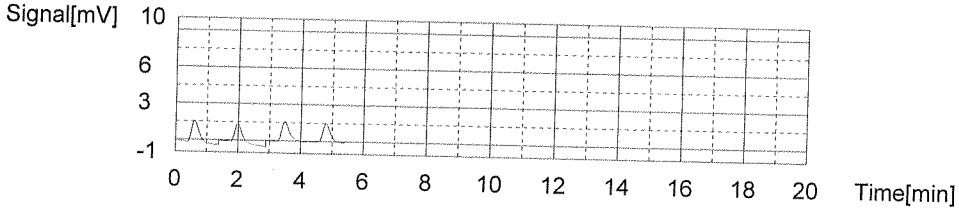
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.2240mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.776	0.2402mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:06:55 PM
2	2.228	0.1927mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:10:48 PM
3	2.829	0.2447mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:14:30 PM
4	2.523	0.2183mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:19:01 PM

Mean Area 2.589
Mean Conc. 0.2240mg/L



Sample

Sample Name: 1501116-07
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

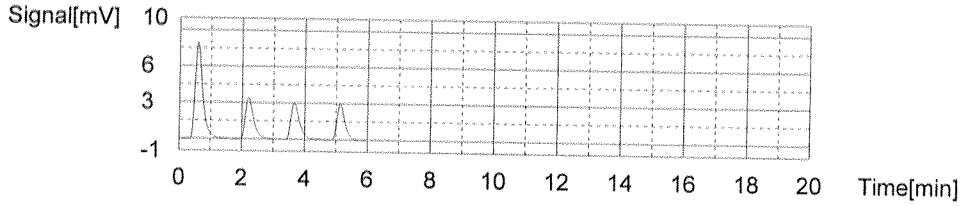
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.6794mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	13.71	1.186mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:29:29 PM
2	6.413	0.5548mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:33:19 PM
3	5.794	0.5012mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:37:10 PM
4	5.498	0.4756mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:41:41 PM

Mean Area 7.854
Mean Conc. 0.6794mg/L



Sample

Sample Name: 1501124-03
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

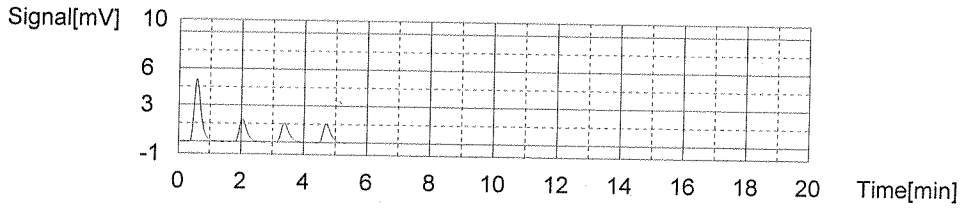
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.3623mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.082	0.6992mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:52:00 PM
2	3.218	0.2784mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:55:43 PM
3	2.785	0.2409mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:59:26 PM
4	2.669	0.2309mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 9:03:57 PM

Mean Area 4.189
Mean Conc. 0.3623mg/L



Sample

Sample Name: 1501124-04
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

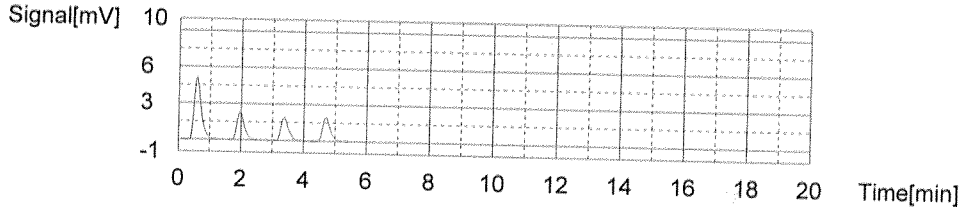
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.4133mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.271	0.7155mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 9:14:11 PM
2	3.891	0.3366mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 9:17:58 PM
3	3.457	0.2991mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 9:21:41 PM
4	3.491	0.3020mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 9:26:12 PM

Mean Area 4.778
Mean Conc. 0.4133mg/L



Sample

Sample Name:
Sample ID:
Origin:
Status
Chk. Result

1501124-05
CBI
01-19-15Q.2015_01_19_11_33_04.cal
Completed

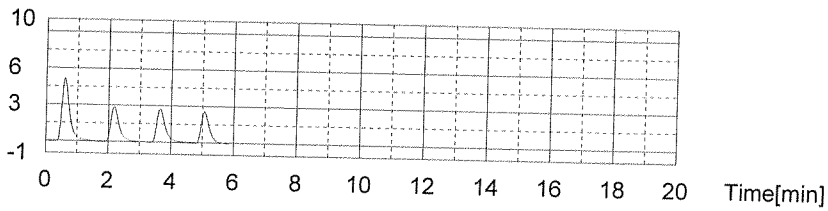
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.5264mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.061	0.7839mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 9:36:38 PM
2	5.358	0.4635mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 9:40:29 PM
3	5.140	0.4447mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 9:44:17 PM
4	4.781	0.4136mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 9:48:48 PM

Mean Area 6.085
Mean Conc. 0.5264mg/L



Sample

Sample Name:
Sample ID:
Origin:
Status
Chk. Result

SEQ-CCV
15A0719 TV=50ppm
01-19-15Q.2015_01_19_11_33_04.cal
Completed

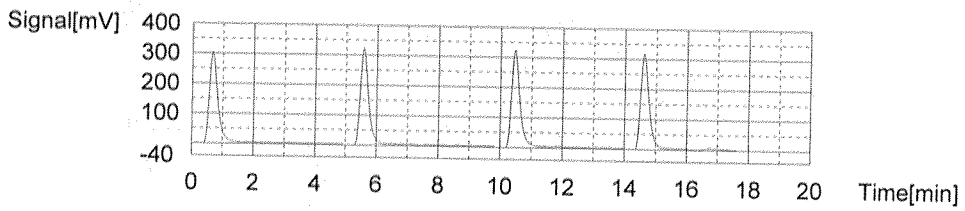
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:57.11mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	642.2	55.56mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 10:02:34 PM
2	663.3	57.38mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 10:10:35 PM
3	664.6	57.49mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 10:17:07 PM
4	670.5	58.01mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 10:23:56 PM

Mean Area 660.1
Mean Conc. 57.11mg/L



Sample

Sample Name: SEQ-CCB
Sample ID: QC
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

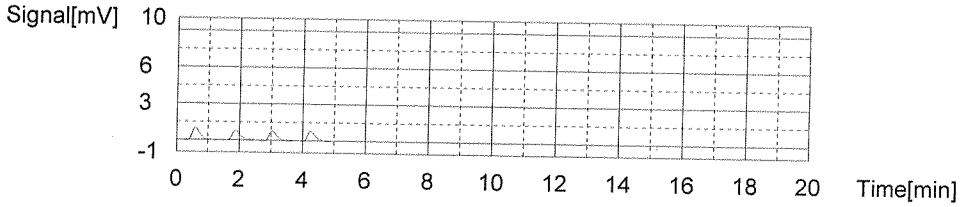
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.1265mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.789	0.1548mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 10:36:09 PM
2	1.346	0.1164mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 10:39:41 PM
3	1.346	0.1164mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 10:43:17 PM
4	1.369	0.1184mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 10:47:48 PM

Mean Area 1.462
Mean Conc. 0.1265mg/L



Sample

Sample Name: 1501134-03
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

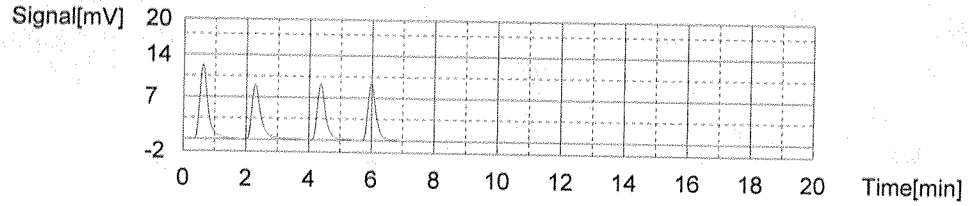
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:1.638mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	22.42	1.940mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 10:58:19 PM
2	18.36	1.588mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:02:47 PM
3	17.59	1.522mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:06:47 PM
4	17.37	1.503mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:11:18 PM

Mean Area 18.94
Mean Conc. 1.638mg/L



Sample

Sample Name: 1502012-01
Sample ID: ENSAFE
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

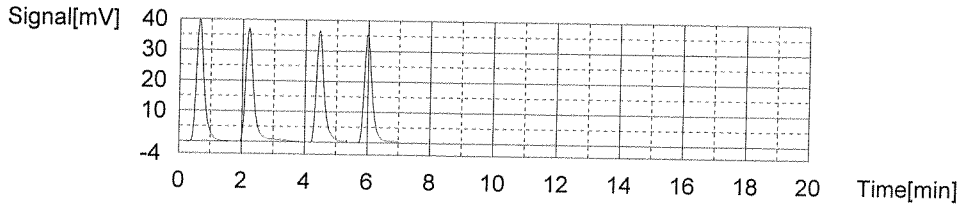
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:5.687mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	69.79	6.038mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:21:44 PM
2	67.44	5.834mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:26:22 PM
3	62.68	5.422mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:30:56 PM
4	63.04	5.454mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:35:27 PM

Mean Area 65.74
Mean Conc. 5.687mg/L



Sample

Sample Name: 1502012-02
Sample ID: ENSAFE
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

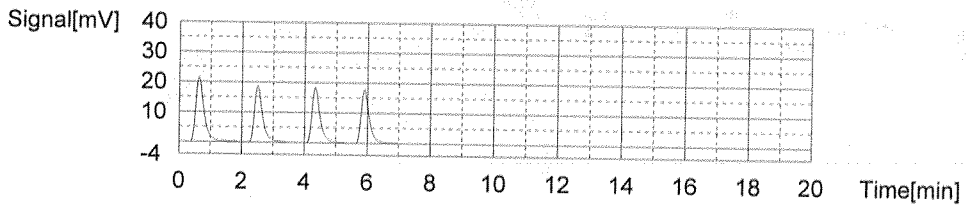
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:3.036mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	40.26	3.483mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:46:11 PM
2	34.73	3.005mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:50:24 PM
3	33.12	2.865mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:54:26 PM
4	32.25	2.790mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:58:57 PM

Mean Area 35.09
Mean Conc. 3.036mg/L



Sample

Sample Name: 1502026-01
Sample ID: ENSAFE
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

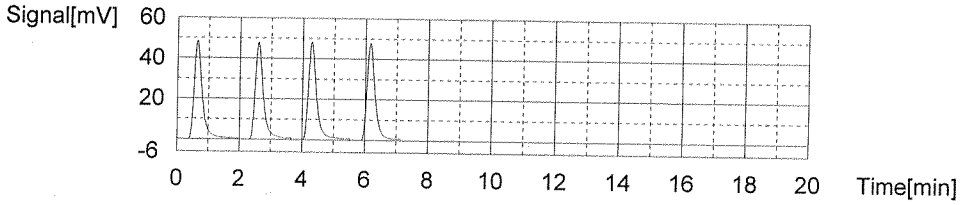
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:7.547mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	88.06	7.618mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 12:09:46 AM
2	87.06	7.532mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 12:13:51 AM
3	87.82	7.597mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 12:18:06 AM
4	86.01	7.441mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 12:22:37 AM

Mean Area 87.24
Mean Conc. 7.547mg/L



Sample

Sample Name: 5B05019-MS2
Sample ID: ENSAFE
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

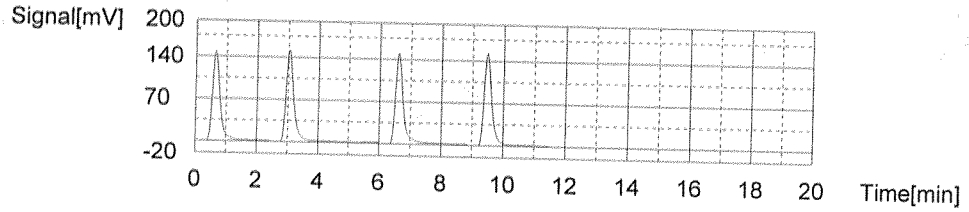
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:23.53mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	264.1	22.85mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 12:33:52 AM
2	280.2	24.24mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 12:39:49 AM
3	274.0	23.70mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 12:45:04 AM
4	269.8	23.34mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 12:50:48 AM

Mean Area 272.0
Mean Conc. 23.53mg/L



Sample

Sample Name: 5B05019-MSD2
Sample ID: ENSAFE
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

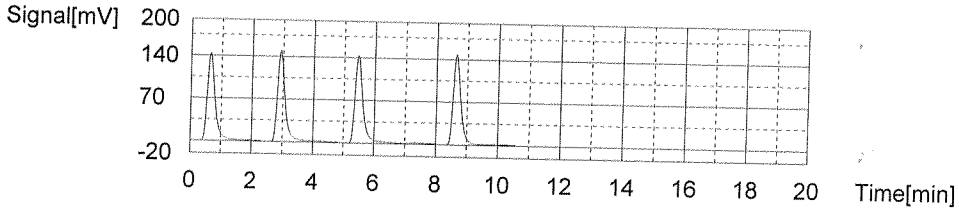
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:22.94mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	258.9	22.40mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 1:03:59 AM
2	269.1	23.28mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 1:08:54 AM
3	270.0	23.36mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 1:15:11 AM
4	262.8	22.73mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 1:20:58 AM

Mean Area 265.2
Mean Conc. 22.94mg/L



Sample

Sample Name: 1502026-02
Sample ID: ENSAFE
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

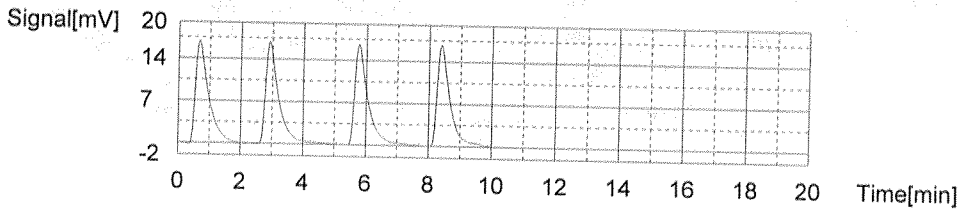
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:4.244mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	51.55	4.460mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 1:34:07 AM
2	49.20	4.256mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 1:39:20 AM
3	48.78	4.220mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 1:44:20 AM
4	46.71	4.041mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 1:50:05 AM

Mean Area 49.06
Mean Conc. 4.244mg/L



Sample

Sample Name: SEQ-CCV
Sample ID: 15A0718 TV=25ppm
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

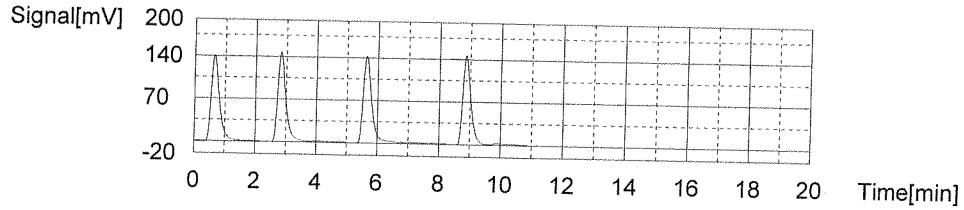
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:24.08mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	271.0	23.44mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 2:03:10 AM
2	282.1	24.40mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 2:08:21 AM
3	283.2	24.50mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 2:14:43 AM
4	277.3	23.99mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 2:20:27 AM

Mean Area 278.4
Mean Conc. 24.08mg/L



Sample

Sample Name: SEQ-CCB
Sample ID: QC
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

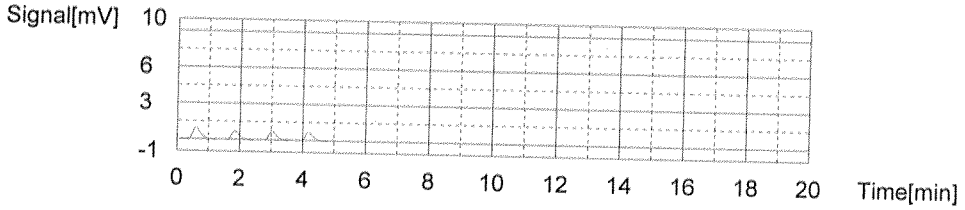
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.1185mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.744	0.1509mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 2:32:36 AM
2	1.231	0.1065mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 2:36:10 AM
3	1.265	0.1094mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 2:39:43 AM
4	1.237	0.1070mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 2:44:14 AM

Mean Area	1.369
Mean Conc.	0.1185mg/L



TOC-V Cal Curve Information
01-19-15Q.2015_01_19_11_33_04.cal

Date of Creation	10:35:54 AM 1/19/2015
User	RBURR
System	Shimadzu TOC-Vws

Cal. Curve

Sample Name:	Untitled
Sample ID:	Untitled
Cal. Curve:	01-19-15Q.2015_01_19_11_33_04.cal
Status	Completed
Comment:	

Type	Anal.
Standard	NPOC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1.831	350uL	2	*******		1/19/2015 11:42:33
2	1.286	350uL	2	*******		1/19/2015 11:45:43
3	1.255	350uL	2	*******		1/19/2015 11:48:52
4	1.213	350uL	2	*******		1/19/2015 11:53:07

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	1.396
SD Area	0.2914
CV Area	20.87%
Vial	1
WetChem Oxid.	1.5mL

Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	11.99	350uL	2	*******		1/19/2015 12:03:18
2	11.78	350uL	2	*******		1/19/2015 12:06:45
3	11.72	350uL	2	*******		1/19/2015 12:10:11
4	11.42	350uL	2	*******		1/19/2015 12:14:26

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	11.73
SD Area	0.2354
CV Area	2.01%
Vial	2
WetChem Oxid.	1.5mL

Conc: 2.500mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	25.55	350uL	2	*******		1/19/2015 12:24:39
2	27.06	350uL	2	*******		1/19/2015 12:28:11
3	28.51	350uL	2	*******		1/19/2015 12:31:59
4	26.05	350uL	2	*******		1/19/2015 12:36:15

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	26.79
SD Area	1.306
CV Area	4.87%
Vial	3
WetChem Oxid.	1.5mL

Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	51.30	350uL	2	*******		1/19/2015 12:46:38 I
2	51.69	350uL	2	*******		1/19/2015 12:50:19 I
3	52.69	350uL	2	*******		1/19/2015 12:54:41 I
4	50.84	350uL	2	*******		1/19/2015 12:58:56 I

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	51.63
SD Area	0.7874
CV Area	1.53%
Vial	4
WetChem Oxid.	1.5mL

Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	108.0	350uL	2	*******		1/19/2015 1:09:51 P
2	111.3	350uL	2	*******		1/19/2015 1:14:06 P
3	109.4	350uL	2	*******		1/19/2015 1:18:05 P
4	103.9	350uL	2	*******		1/19/2015 1:22:20 P

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	108.2
SD Area	3.140
CV Area	2.90%
Vial	5
WetChem Oxid.	1.5mL

Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	248.9	350uL	2	*******		1/19/2015 1:32:48 P
2	290.8	350uL	2	*******		1/19/2015 1:38:14 P
3	273.0	350uL	2	*******		1/19/2015 1:42:06 P
4	280.0	350uL	2	*******		1/19/2015 1:46:21 P

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	273.2
SD Area	17.76
CV Area	6.50%
Vial	6
WetChem Oxid.	1.5mL

Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	563.3	350uL	2	*******		1/19/2015 1:57:06 P
2	559.5	350uL	2	*******		1/19/2015 2:01:01 P
3	574.4	350uL	2	*******		1/19/2015 2:05:00 P
4	541.7	350uL	2	*******		1/19/2015 2:09:15 P

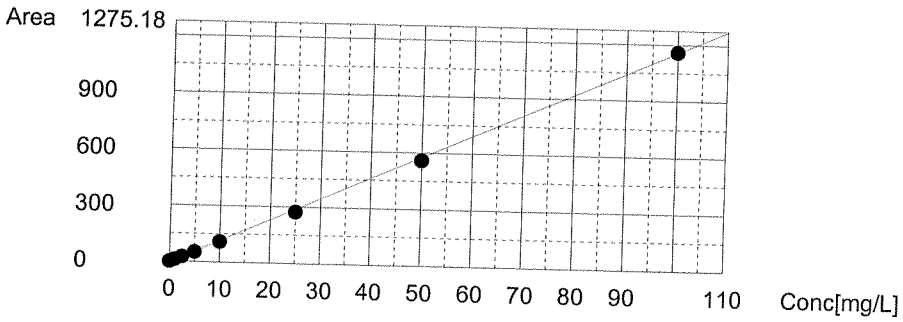
Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	559.7
SD Area	13.58
CV Area	2.43%
Vial	7
WetChem Oxid.	1.5mL

Conc: 100.0mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1263	350uL	2	*******		1/19/2015 2:22:09 P
2	1278	350uL	2	*******		1/19/2015 2:27:30 P
3	1024	350uL	2	*******		1/19/2015 2:31:36 P
4	1072	350uL	2	*******		1/19/2015 2:37:04 P

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	1159
SD Area	130.1
CV Area	11.22%
Vial	8
WetChem Oxid.	1.5mL

Slope:	11.56
Intercept	0.000
r^2	0.9996
r	0.9998
Zero Shift	Yes



PREPARATION BENCH SHEET

5A28014

Empirical Laboratories, LLC **Printed: 2/12/2015 1:13:32PM**

Instrument:

Matrix: Water **Prepared using: GCLC - WC_PREP_ANIONS_W** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
1501053-01	B	WC_ANIONS_9056A (Regular)	01/28/2015	5	5					NA	QSM5.0, Lot#N0115;Check SOP and results against expected concentration!;Check SOP and results against expected concentration!
1501053-01	B	WC_ANIONS_300.0 (Regular)_	01/28/2015	5	5					NA	QSM5.0, Lot#N0115;9056A,too. Check SOP and results against expected concentration!;9056A,too. Check SOP and results against expected concentration!
1501053-23	B	WC_ANIONS_300.0 (Short Hol	01/28/2015	5	5					NA	QSM5.0, Lot#N0115;9056A,too. Check SOP and results against expected concentration!;9056A,too. Check SOP and results against expected concentration!
1501053-23	B	WC_ANIONS_9056A (Short Ho	01/28/2015	5	5					NA	QSM5.0, Lot#N0115;Validate SOP within review! Check result against expected ranges!!!;Validate SOP within review! Check result against expected ranges!!!
1501116-02	F	WC_ANIONS_9056A (Regular)	01/28/2015	5	5					NA	;;
1501116-02	F	WC_ANIONS_9056A (Short Ho	01/28/2015	5	5					NA	;;
1501116-03	F	WC_ANIONS_9056A (Regular)	01/28/2015	5	5					NA	;;
1501116-03	F	WC_ANIONS_9056A (Short Ho	01/28/2015	5	5					NA	;;
1501116-04	F	WC_ANIONS_9056A (Regular)	01/28/2015	5	5					NA	;;
1501116-04	F	WC_ANIONS_9056A (Short Ho	01/28/2015	5	5					NA	;;
1501116-05	Q	WC_ANIONS_9056A (Regular)	01/28/2015	5	5					NA	MS/MSD;BatchQC;Added for BatchQC in: 5A28014
1501116-05	Q	WC_ANIONS_300.0 (Regular)_	01/28/2015	5	5					NA	MS/MSD;BatchQC;Added for BatchQC in: 5A28014
1501116-05	Q	WC_ANIONS_9056A (Regular)	01/28/2015	5	5					NA	MS/MSD;MS/MSD;MS/MSD
1501116-05	Q	WC_ANIONS_9056A (Short Ho	01/28/2015	5	5					NA	MS/MSD;MS/MSD;MS/MSD
1501116-05	Q	WC_ANIONS_9056A (Short Ho	01/28/2015	5	5					NA	MS/MSD;BatchQC;Added for BatchQC in: 5A28014
1501116-05	Q	WC_ANIONS_300.0 (Short Hol	01/28/2015	5	5					NA	MS/MSD;BatchQC;Added for BatchQC in: 5A28014
1501116-06	F	WC_ANIONS_9056A (Regular)	01/28/2015	5	5					NA	;;

PREPARATION BENCH SHEET

5A28014

Empirical Laboratories, LLC **Printed: 2/12/2015 1:13:32PM**

Instrument:

Matrix: Water **Prepared using: GCLC - WC_PREP_ANIONS_W** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
1501116-06	F	WC_ANIONS_9056A (Short Ho	01/28/2015	5	5					NA	;;
1501116-07	F	WC_ANIONS_9056A (Regular)	01/28/2015	5	5					NA	;;
1501116-07	F	WC_ANIONS_9056A (Short Ho	01/28/2015	5	5					NA	;;
5A28014-BLK1		QC	01/28/2015	5	5					NA	
5A28014-BS1		QC	01/28/2015	5	5	14L0385		5000		NA	
5A28014-DUP1		QC	01/28/2015	5	5		1501116-05			NA	
5A28014-MS1		QC	01/28/2015	22.5	25	14J0774	1501116-05	2500		NA	
5A28014-MSD1		QC	01/28/2015	22.5	25	14J0774	1501116-05	2500		NA	

Reagents Used:

Standard	Description

From 5A09005 on 1/12/2015 by MSJ

PREPARATION BENCH SHEET

5B05019

Empirical Laboratories, LLC **Printed: 2/12/2015 1:14:06PM**

Instrument:

Matrix: Water **Prepared using: WC - pNone** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
1501116-02	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	;;
1501116-03	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	;;
1501116-04	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	;;
1501116-05	T	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	MS/MSD;MS/MSD;MS/MSD
1501116-06	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	;;
1501116-07	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	;;
1501124-03	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	;;
1501124-04	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	;;
1501124-05	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	;;
1501134-03	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	;;
1502012-01	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	Unpres. VOC;;
1502012-02	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	Unpres. VOC;;
1502026-01	U	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	MS/MSD, Unpres. VOC;;
1502026-02	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	Unpres. VOC;;
5B05019-BLK1		QC	02/05/2015	40	40					NA	
5B05019-BS1		QC	02/05/2015	40	40	15A0426		40000		NA	
5B05019-MS1		QC	02/05/2015	40	40	14F0560	1501116-05	600		NA	

PREPARATION BENCH SHEET

5B05019

Empirical Laboratories, LLC **Printed: 2/12/2015 1:14:06PM**

Instrument:

Matrix: Water **Prepared using: WC - pNone** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
5B05019-MS2		QC	02/05/2015	40	40	14F0560	15020226-01	600		NA	
5B05019-MSD1		QC	02/05/2015	40	40	14F0560	15011116-05	600		NA	
5B05019-MSD2		QC	02/05/2015	40	40	14F0560	15020226-01	600		NA	

Reagents Used:

Standard	Description
14L0603	TOC Phosphoric Acid Reagent
15A0462	TOC PERSULFATE REAGENT

ANALYTICAL DATA PACKAGE
SDG # 1501124

PROJECT NAME: RADFORD ARMY AMMUNITION PLANT
PROJECT LOCATION: RADFORD VA
CONTRACT #: W912QR-04-D-0027 DA101

SUBMITTAL TO:
Eric Malarek
CB&I FEDERAL SERVICES, LLC
4696 Millennium Drive, Suite 320
Belcamp, MD 21017

SUBMITTAL BY:
Empirical Laboratories, LLC (EL)
621 Mainstream Drive, Suite 270
Nashville, TN 37228
Tel (615)345-1115
Fax (866)417-0548

LABORATORY CONTACT PERSON:
Project Manager: Sonya Gordon
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Original Report Date: February 12, 2015
Report Revision #: N/A
Revision Date: N/A
Total # of Pages: 329

THIS DOCUMENT MEETS DoD QSM 4.2 STANDARDS

The results relate to only the samples associated with the referenced SDG and the submitted data has been produced in accordance with laboratory procedures. The Laboratory's Technical Lab Director, Mr. Rick Davis, is responsible for the final data produced and reported. His signature is listed at the end of the Case Narrative within the Analytical Data Package. If applicable to this report package, details on report revisions and the information on subcontracted analysis are listed in the package Case Narrative. This report shall not be reproduced, except in full, without the written approval of Empirical Laboratories, LLC.

L-A-B Accredited - Certificate Number L2226 - Testing

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Sample Delivery Group Case Narrative

Receipt Information:
The samples were received within the preservation guidelines for the associated methods. The information associated with sample receipt and the Sample Delivery Group (SDG) are included within section 4 of this package, which also provides information on the link between the client sample ID listed on the COC and laboratory's assigned unique sample ID or WorkOrder #. The sample is tracked through the laboratory for all analysis via the assigned WorkOrder #.

All samples that were received were analyzed and none of the samples were placed on hold without analyses. There were no subcontracted analyses for this SDG.

The following issues were discovered with the COC and/or samples upon log-in:

1. Received one HCl preserved vial that was broken in shipment for 'Trip Blank #14-0840' (1/28/15@0800), also the other vial has large pea-size headspace present.

Changes to the Revision:
This is an original submittal of the final report package.

Analytical Information:
All samples were prepped (where applicable) and analyzed within the standard allowed holding times, unless noted within the exceptions listed below. The laboratory analyzed all samples within the program and method guidelines. Sample preparation and dilution information is provided within the final results report and at the beginning of each form set. The following information is provided specific to individual methods:

SW8260B:
The following continuing calibration verifications exceeded criteria:
5B04025-CCV1 with a positive bias for Carbon Tetrachloride
Note – No positive results were detected in the associated samples with the exception of samples 1501124-03 and -04 and the samples were not re-analyzed since the exceedence was minimal at 20.7% with a limit of +/- 20% as well, the associated batch spike is within +/- 20%.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

RSK175 MEE:
No anomalies or deviations are noted.

Wet Chemistry:

No anomalies or deviations are noted.

Data Qualifiers:

As applicable and where required, the following general qualifiers are associated with the sample results. Additional qualifiers will be specified within the reporting sections of the data package or within the body of the Case Narrative.

Analytical Report Terms and Qualifiers

DL: The detection limit (DL) is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The DL is supported by the method detection limit (MDL) which is determined from analysis of a sample containing the analyte in a given matrix.

LOD: The Limit of Detection is an estimate of the minimum amount of a substance that an analytical process can reliably detect. An LOD is analyte- and matrix-specific and may be laboratory-dependent. This definition is further clarified in the DoD QSM 4.2 revisions as the smallest amount or concentration of a substance that must be present in a sample in order to be detected at a high level of confidence (99%). At the LOD, the false negative rate (Type II error) is 1%.

LOQ: The Limit of Quantitation is the minimum level, concentration, or quantity of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. This term is further clarified within the DoD QSM 4.2 as the lowest concentration that produces a quantitative result within specified limits of precision and bias.

*****: Exceeding quality control criteria are associated with the reported result.

B: The presence of a "B" to the right of an analytical value indicates that this compound was also detected in the method blank and the data should be interpreted with caution. One should consider the possibility that the correct sample result might be less than the reported result and, perhaps, zero.

D: When a sample (or sample extract) is rerun diluted because one of the compound concentrations exceeded the highest concentration range for the standard curve, all of the values obtained in the dilution run will be flagged with a "D".

E: The concentration for any compound found which exceeds the highest concentration level on the standard curve for that compound will be flagged with an "E". Usually the sample will be rerun at a dilution to quantitate the flagged compound. For Metals, the qualifier indicates that the serial dilution was outside of the control limits and the compound should be considered estimated due to the presence of interference.

H1: The result was analyzed outside of the EPA recommended holding time.

H2: The result was extracted outside of the EPA recommended holding time.

H3: The sample for this analyte was received outside of the EPA recommended holding time.

J: The presence of a "J" to the right of an analytical result indicates that the reported result is estimated. The mass spectral data pass the identification criteria showing that the compound is present, but the calculated result is less than the LOQ. One should feel confident that the result is greater than zero and less than the LOQ.

M: Indicates that the sample matrix interfered with the quantitation of the analyte. In dual column analysis the result is reported from the column with the lower concentration. In inorganics, it indicates that the parameters DL/LOD/LOQ have been raised.

N: The MS/MSD accuracy and/or precision are outside criteria. The predigested spike recovery is not within control limits for the associated parameter.

P: The associated numerical value is an estimated quantity. There is greater than a 40% difference between the two GC columns for the detected concentrations. The higher of the two values is reported unless matrix interference is obvious or for HPLC analysis where the primary column is reported.

Q: The relative percent difference (RPD) and/or percent recovery exceeded limits in the associated Blank Spike and/or Blank Spike Duplicate.

S: The associated internal standard exceeded criteria.

U: The presence of a "U" indicates that the analyte was analyzed for but was not detected or the concentration of the analyte quantitated below the DL.

X: The parameter shows a potential positive bias on a reported concentration due to an ICV or CCV exceeding the upper control limit on the high side.

Y: The parameter shows a potential negative bias on a reported concentration due to an ICV or CCV exceeding the lower control limit on the low side.

Z: The parameter shows lack of confirmation/detection, which may be due to a negative bias in the ICV or CCV which exceeds the lower control limit.

Chromatographic Flags for Manual Integration:

The following letters are used to denote manual integrations on the laboratory's raw data in association with chromatographic integrations:

A: The peak was manually integrated as it was not integrated in the original chromatogram.

B: The peak was manually integrated due to resolution or coelution issues in the original chromatogram.

C: The peak was manually integrated to correct the baseline from the original chromatogram.

D: The peak was manually integrated to identify the correct peak as the wrong peak was identified in the original chromatogram.

E: The peak was manually integrated to include the entire peak as the original chromatogram only integrated part of the peak.

LIMS Definitions / Naming Conventions:

The following are general naming conventions that are used throughout the laboratory; however, on a method by method basis, there are additional QAQC items that are named in a consistent format.

BLK: LIMS assigns a unique identifier to the Method Blank by naming it as the letters BLK

appended to the Batch ID. A Method Blank is an analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The Method Blank is used to assess for possible contamination during preparation and/or analysis steps. Method Blanks within a Batch or Analytical sequence will be appended with a numerical value beginning with 1 that will increase incrementally.

BS: LIMS assigns a unique identifier to the Blank Spike by naming it as the letters BS appended to the Batch ID. The Blank Spike or Lab Control Sample is a controlled analyte-free matrix, which is spiked with known and verified concentrations of target analytes. Spiking concentrations can be referenced in the method SOP. The BS is used to evaluate the viability of analytes taken through the entire prep (when applicable) and analytical process. Blank Spikes within a Batch or Analytical sequence will be appended with a numerical value beginning with 1 that will increase incrementally. A duplicate Blank Spike will be designated as a BSD.

MS: The LIMS assigns each Client sample with a unique identifier. The Matrix Spike is designated with a MS at the end of the sample's unique identifier. The Matrix Spike sample is used to assess the effect of the sample matrix on the precision and accuracy of the results generated using the selected method. A duplicate Matrix Spike will be designated as a MSD.

IDs: The LIMS assigns each Client sample with a unique identifier. The letter "RE" may potentially be appended to the end of the LIMS Sample ID. And "**RE"** implies that the sample was either re-prepped, re-analyzed straight, or re-analyzed at a dilution. Subsequent re-analysis for the sample will be appended with a numerical value beginning with 1 that will increase incrementally. Eg: RE1, RE2, RE3, etc.

Statement of Data Authenticity:

I certify that, based upon my inquiry of those individuals immediately responsible for obtaining the information and to the best of my knowledge, the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, with the exception of the conditions detailed in this Case Narrative, as verified by my signature below. During absences, the Data Quality Manager, Technical Directors or Project Managers are authorized to sign this Statement of Data Authenticity.



Mr. Rick D. Davis
Laboratory Technical Director / VP Operations

Empirical Laboratories, LLC
Certifications/Approvals
(Revised 02/06/2015)

DoD ELAP QSM5.0, Certificate Number L2226
- Aqueous
- Non-aqueous
- Expires: 11/30/2015

State of Florida, Department of Health – NELAP, Lab ID: E87646
- Clean Water Act
- RCRA/CERCLA
- Expires: 06/30/2015

State of Georgia, Environmental Protection Agency – NELAP, Self Certification
- Expires: 06/30/2015

State of Illinois, Environmental Protection Agency – NELAP, Certificate Number: 003464
- Groundwater
- Solid and Hazardous Waste
- Expires: 09/13/2015

Commonwealth of Kentucky, Energy and Environment Cabinet – WWLCP, Laboratory Number: 98017
- Wastewater
- Expires: 12/31/2015

Commonwealth of Kentucky, Department of Environmental Protection – UST, Certificate Number: 77
- Aqueous
- Non-aqueous
- Expires: 06/30/2015

State of New Jersey, Department of Environmental Protection – NELAP Primary, Lab ID: TN473
- Water Pollution
- Solid and Hazardous Waste
- Expires: 06/30/2015

State of North Carolina, Department of Environment and Natural Resources - Certificate Number: 643
- Aqueous
- Non-aqueous
- Expires: 12/31/2015

State of North Dakota, Department of Health – NELAP, Certificate No.: R-204
- Aqueous
- Non-aqueous
- Expires: 06/30/2015

Commonwealth of Pennsylvania, Department of Environmental Protection – NELAP, Lab ID: 68-05374
- Aqueous
- Non-aqueous
- Expires: 10/31/2015

State of Texas, Commission on Environmental Quality – NELAP, Certificate Number: T104704307-15-11
- Aqueous
- Non-aqueous
- Expires: 12/31/2015

State of Utah, Department of Health – NELAP, Certificate Number: TN0042014-6
- Aqueous
- Non-aqueous
- Expires: 07/31/2015

Commonwealth of Virginia, Department of General Services – NELAP, Certificate Number: 7596, Lab ID: 460243
- Aqueous
- Non-aqueous
- Expires: 12/14/2015

State of Washington, Department of Ecology – NELAP, Lab ID: C934-14
- Groundwater
- Solid and Hazardous Waste
- Expires: 03/18/2015

ORGANIC CALCULATIONS

GC/MS Volatiles

$$\text{Final Concentration} = \frac{\text{On-column(ug/L or ug/Kg) * Expected Vol/Weight (mL or g) * Dilution}}{\text{Initial Vol/Weight (mL or g) * (Percent Solids/100) (if applicable)}}$$

Note - Expected Vol/Weight value is found in "Final Vol" column of Preparation Batch Summary.

GC/MS Extractables

$$\text{Final Concentration} = \frac{\text{On-column(ng/uL) * Final Vol (ml) * Dilution *(1000uL/mL)}}{\text{Initial Vol/Weight (mL or g) * (Percent Solids/100) (if applicable)}}$$

= ng/mL or ng/g

= ug/L or ug/kg

GC or LC Extractables

$$\text{Final Concentration} = \frac{\text{On-column(ng/mL) * Final Vol (mL) * Dilution}}{\text{Initial Vol/Weight (mL or g) * (Percent Solids/100) (if applicable)}}$$

= ng/mL or ng/g

= ug/L or ug/kg

Sample Receipt Information

1501124

EMPIRICAL LABORATORIES, LLC - CHAIN OF CUSTODY RECORD

25453

SHIP TO: 621 Mainstream Drive, Suite 270 ♦ Nashville, TN 37228 ♦ 877-345-1113 ♦ (fax) 866-417-0548

Send Results to:	Send Invoice to:
Name Eric Malaves	Name
Company CBI Fed Serv.	Company
Address 4696 millennium Dr	Address
City Belcamp	City
State, Zip MD 21034	State, Zip
Phone	Phone
Fax	Fax
E-mail	E-mail
Project No./Name: SWMU 48/49	**Sampler's (Signature):**

Lab Use Only:

VOA Headspace	Y	N	NA
Field Filtered	Y	N	NA
Correct Containers	Y	N	NA
Discrepancies	Y	N	NA
Cust. Seals Intact	Y	N	NA
Containers Intact	Y	N	NA

Airbill #:

CAR #:

Lab Use Only Lab #	Date/Time Sampled	Sample Description	Sample Matrix	VOC (HCl)	RSK (HCl)	Anions	TOC (HCl)	Comments	No. of Bottles	Lab Use Only Containers/Pres.
01	1/28 835	49MW03	GW	3					3	
02	1/28 800	Trip Blank 140840	GW	2					2	
03	1/28 1200	48MW2	GW	3	2	1	1		7	
04	1/28 1320	49MW01	GW	3	2	1	1		7	
05	1/28 1430	48MW1	GW	3	2	1	1		7	

Relinquished by: (Signature)	Date/Time: 1/28 4:00	Received By: (Signature)	
Relinquished by: (Signature)	Date/Time:	Received By: (Signature)	
Received for Laboratory by: (Signature)	Date/Time: 0945 1/29/15	*Temperature:* 4.1	

REMARKS:

Details:

Page 1 of 1

Cooler No. 1 of 1

Date Shipped 1/28/15

Shipped By JN

Turnaround Standard

Distribution: Original and yellow copies accompany sample shipment to laboratory; Pink retained by samplers.

II. EMPIRICAL LABORATORIES
COOLER RECEIPT FORM

Cooler Received/Opened On: 01/29/15 @0945 Workorder# 1501124

1. Tracking # 1Z66V7422100 19063 (last 4 digits, FedEx)

   Courier: UPS

2. Temperature of rep. sample or temp blank when opened: 4.1 °C + correction factor(-0.0) = 4.1 °C

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO (NA)

4. Were custody seals on outside of cooler? (YES)..NO...NA

   If yes, how many and where: 2. front + back

5. Were the seals intact, signed, and dated correctly? (YES)...NO...NA

6. Were custody papers inside cooler? (YES)...NO...NA

   I certify that I opened the cooler and answered questions 1-6 (initial/date) JTG 1/29/15

7. Were custody seals on containers: YES (NO) and intact YES...NO..(NA)

   Were these signed and dated correctly? YES...NO..(NA)

8. Packing material used? (Bubblewrap) (Plastic bag) Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice (Ice-pack) Ice (direct contact) Dry ice Other None

★10. Did all containers arrive in good condition (unbroken)? JTG ~~1/28~~ 1/29 (YES)..NO..NA

11. Were all container labels complete (#, date, signed, pres., etc)? (YES)...NO...NA

12. Did all container labels and tags agree with custody papers? (YES)..NO...NA

13. a. Were VOA vials received? (YES)..NO...NA

★ b. Was there observable headspace present in any VOA vial (>5mm-6mm)? (YES)...NO...NA

14. Was there a Trip Blank in this cooler (custody seals present/intact)? (YES)..NO...NA...Comments Limited volume/head space
    If multiple coolers, sequence # —

    I certify that I unloaded the cooler and answered questions 7-14 (initial/date) JTG ~~1/28/15~~ 1/29/15

15. a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? (YES)..NO...NA

    b. Did the bottle labels indicate that the correct preservatives were used? (YES)..NO...NA

16. Was residual chlorine present? YES...NO..(NA)

    I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial/date) JTG 1/29/15

17. Were custody papers properly filled out (ink, signed, etc)? (YES)..NO...NA

18. Did you sign the custody papers in the appropriate place? (YES)..NO...NA

19. Were correct containers used for the analysis requested? (YES)..NO...NA If not, PM notified? YES...NO..(NA)

20. Was sufficient amount of sample sent in each container? (YES)..NO...NA If not, PM notified? YES...NO..(NA)

21. Were there Non-Conformance issues at login? YES..(NO)..NCR#_____

I certify that I entered this project into LIMS and answered questions 17-21 (initial/date) JTG 1/29/15

I certify that I attached a label with the unique LIMS number to each container (initial/date) JTG 1/29/15

I certify that I notified the laboratory of any short holding time or RUSH parameters (initial/date) JTG 1/29/15

C:\Users\jgross\Desktop\Cooler Receipt Updated 2014.doc

II. EMPIRICAL LABORATORIES
COOLER RECEIPT FORM (Continued)

LIMS Data Entry Second Check Workorder# 1501124

22. Cooler Receipt Form Issues reviewed and communicated to PM? YES...NO...NA

23. Client and Project verified to match the COC/CRF in LIMS Project Screen? YES...NO...NA

24. Following items verified to items verified to match the COC/CRF in LIMS Receipt Screen:

- a. Received Date/Received By YES...NO...NA
- b. TAT (COC specified different?) YES...NO...NA
- c. Shipping Container Temperatures (corrected temps) YES...NO ...NA
- d. Condition Items (seals, intact, labels, preservation, ROI) YES...NO...NA

25. Following LIMS Sample Information verified against COC for each sample:

- a. Name YES...NO...NA
- b. QC Source YES...NO...NA
- c. Matrix YES...NO...NA
- d. Sample Type YES...NO...NA
- e. Sampled Date/Time (Correct Time Zone) YES...NO...NA
- f. Work Analyses/Versions (if applicable) YES...NO...NA
- g. Sample Issues included in comments (limited volume, concentration warnings, etc.)? YES...NO...NA
- h. Unpreserved VOA holding time set to 7 days? YES...NO...NA

26. Containers consistent with tests requested? YES...NO...NA

27. Field data entered and matching COC? YES...NO...NA

I certify that I have verified the LIMS data entry and answered questions 23-27 above (initial/date): _____.

Additional Details:

★ Received one broken HCl vial for 'Trip Blank #14-0840' (1/28/15@0800) in shipment

★ Headspace present in other HCl vial for 'Trip Blank #14-0840'

III. EMPIRICAL LABORATORIES, LLC
DATA ENTRY VERIFICATION FORM – PROJECT MANAGEMENT

Workorder#: 1501124

	Verification Item	Yes	No	NA
1.	**Cooler Receipt Form Issues reviewed and communicated to client**	X		
2.	**Element/ Project Screen/items verified to match the COC/CRF:**			
a.	**Client/Project**	X		
b.	Comments requiring laboratory reminder?			X
c.	Client and/or Project Memo requiring laboratory reminder?			X
3.	**Receipt Screen items verified to match the COC/CRF:**			
a.	Received Date/Received By	X		
b.	Workorder Due Date	X		
c.	Package Due Date	X		
d.	TAT	X		
e.	SDG Identifier Populated	X		
4.	**Sample Information verified against COC for each sample:**			
a.	Name	X		
b.	QC Source			X
c.	Matrix	X		
d.	Sample Type	X		
e.	Sampled Date/Time (Correct Time Zone)	X		
f.	Work Analyses/Versions	X		
g.	Sample Issues included in comments	X		
h.	Unpreserved VOA holding time set to 7 days			X
5.	**Containers consistent with tests requested**	X		
6.	**Field data entered and matching COC, if applicable**			X
	I certify that I have performed a second check of the LIMS information against the COC to confirm accuracy (initial/date):	1/30/2015		

1501124

Empirical Laboratories, LLC

Client: CB&I
Project: Radford AAP

Project Manager: Sonya Gordon
Project Number: CBI_RAAP

Report To:
CB&I
Eric Malarek
4696 Millennium Drive, Suite 320
Belcamp, MD 21017
Phone: (410) 273-7233
Fax: (410) 273-7103

Invoice To:
CB&I
Accounts Payable
PO Box 98519
Baton Rouge, LA 70884
Phone :(225) 932-2500
Fax: (225) 932-2661

Due to Client: 02/19/2015 16:00 *This is the projected due date to the client, at the time of receipt, and is for report delivery via upload, and/or email, and/or shipment to meet TAT as setup by project*

Received By: Joshua T. Gross
Date Received: 01/29/2015 09:45
Logged In By: Joshua T. Gross
Date Logged In: 01/29/2015 09:59

Samples Received at: **4.1°C**
Custody Seals Yes Received On Ice Yes
Containers Intact Yes
COC/Labels Agree Yes
Preservation Confirme Yes

Method	Test Code	Due	TAT	Expires	Comments
1501124-01 49MW03 [Water] Sampled 01/28/2015 08:55 Eastern 'Client Sample'					
SW8260B	VOC_8260B_REG	02/16/2015 14:00	15	02/11/2015 07:55	
1501124-02 Trip Blank 14-0840 [Water] Sampled 01/28/2015 08:00 Eastern 'Trip Blank'					**Limited volume**
SW8260B	VOC_8260B_REG	02/16/2015 14:00	15	02/11/2015 07:00	Limited volume
1501124-03 48MW2 [Water] Sampled 01/28/2015 12:00 Eastern 'Client Sample'					
RSK175	VGC_RSK175_MEE	02/16/2015 14:00	15	02/11/2015 11:00	
SW8260B	VOC_8260B_REG	02/16/2015 14:00	15	02/11/2015 11:00	
SW9056A	WC_ANIONS_9056A (Regular)	02/16/2015 14:00	15	02/25/2015 11:00	
SW9056A	WC_ANIONS_9056A (Short Hold)	02/16/2015 14:00	15	01/30/2015 11:00	
SW9060A	WC_TOC_9060A_QUAD	02/16/2015 14:00	15	02/25/2015 11:00	
1501124-04 49MW01 [Water] Sampled 01/28/2015 13:20 Eastern 'Client Sample'					
SW9056A	WC_ANIONS_9056A (Regular)	02/16/2015 14:00	15	02/25/2015 12:20	
SW8260B	VOC_8260B_REG	02/16/2015 14:00	15	02/11/2015 12:20	
SW9056A	WC_ANIONS_9056A (Short Hold)	02/16/2015 14:00	15	01/30/2015 12:20	
SW9060A	WC_TOC_9060A_QUAD	02/16/2015 14:00	15	02/25/2015 12:20	
RSK175	VGC_RSK175_MEE	02/16/2015 14:00	15	02/11/2015 12:20	

1501124

Empirical Laboratories, LLC

Client:	**CB&I**	**Project Manager:**	**Sonya Gordon**
Project:	**Radford AAP**	**Project Number:**	**CBI_RAAP**

Method	Test Code	Due	TAT	Expires	Comments
1501124-05 48MW1 [Water] Sampled 01/28/2015 14:30 Eastern 'Client Sample'					
SW9060A	WC_TOC_9060A_QUAD	02/16/2015 14:00	15	02/25/2015 13:30	
RSK175	VGC_RSK175_MEE	02/16/2015 14:00	15	02/11/2015 13:30	
SW8260B	VOC_8260B_REG	02/16/2015 14:00	15	02/11/2015 13:30	
SW9056A	WC_ANIONS_9056A (Regular)	02/16/2015 14:00	15	02/25/2015 13:30	
SW9056A	WC_ANIONS_9056A (Short Hold)	02/16/2015 14:00	15	01/30/2015 13:30	

Reviewed By

Date

Sample Delivery Group Assignment Form

CLIENT: CB&I
PROJECT NAME: Radford AAP
SDG #: 1501124

QC LEVEL: Level IV
Report Due: 2/19/2015
Client Sample Count: 4

Sample Type	Sampled	Received	Lab ID	Client ID	Report Matrix	RSK175	SW8260B	SW9056A	SW9060A
Client Sample	1/28/2015	1/29/2015	1501124-01	49MW03	Water		X		
Trip Blank	1/28/2015	1/29/2015	1501124-02	Trip Blank 14-0840	Water		X		
Client Sample	1/28/2015	1/29/2015	1501124-03	48MW2	Water	X	X	X	X
Client Sample	1/28/2015	1/29/2015	1501124-04	49MW01	Water	X	X	X	X
Client Sample	1/28/2015	1/29/2015	1501124-05	48MW1	Water	X	X	X	X

Data for SW8260B Forms

Sample Extraction Data

Prep Method: 5030B-SW8260B

Lab Number [Field ID]	Batch	Nominal Initial/Final	Initial [mL]	Final [mL]	Dilution	% Solids	Notes	Date
1501124-01 [49MW03]	5B06004	5.00/5.00	5.00	5.00	1.00			02/06/15
1501124-02 [Trip Blank 14-0840]	5B06004	5.00/5.00	5.00	5.00	1.00			02/06/15
1501124-03 [48MW2]	5B06004	5.00/5.00	5.00	5.00	1.00			02/06/15
1501124-04 [49MW01]	5B06004	5.00/5.00	5.00	5.00	1.00			02/06/15
1501124-05 [48MW1]	5B06004	5.00/5.00	5.00	5.00	1.00			02/06/15

ANALYSIS DATA SHEET

49MW03

Laboratory: Empirical Laboratories, LLC SDG: 1501124

Client: CB&I Project: Radford AAP

Matrix: Water Laboratory ID: 1501124-01 File ID: 0112401B.D

Sampled: 01/28/15 08:55 Prepared: 02/06/15 14:09 Analyzed: 02/06/15 14:09

Solids: Preparation: 5030B Dilution: 1

Batch: 5B06004 Sequence: 5B04025 Calibration: 4295001 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	U
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	UX
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U
95-47-6	o-Xylene	**0.296**	0.250	0.500	1.00	J

Total Target Analytes Reported 35 Project Analytes: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	29.06	96.9	75 - 120	
Dibromofluoromethane	30.00	31.10	104	85 - 115	
1,2-Dichloroethane-d4	30.00	29.72	99.1	70 - 120	

ANALYSIS DATA SHEET

49MW03

Laboratory:	Empirical Laboratories, LLC			SDG:	1501124
Client:	CB&I			Project:	Radford AAP
Matrix:	Water	Laboratory ID:	1501124-01	File ID:	0112401B.D
Sampled:	01/28/15 08:55	Prepared:	02/06/15 14:09	Analyzed:	02/06/15 14:09
Solids:		Preparation:	5030B	Dilution:	1
Batch:	5B06004	Sequence:	5B04025	Calibration:	4295001
Instrument:	MS-VOA3				

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	28.93	96.4	85 - 120	

ANALYSIS DATA SHEET

Trip Blank 14-0840

Laboratory: Empirical Laboratories, LLC SDG: 1501124

Client: CB&I Project: Radford AAP

Matrix: Water Laboratory ID: 1501124-02 File ID: 0112402A.D

Sampled: 01/28/15 08:00 Prepared: 02/06/15 10:48 Analyzed: 02/06/15 10:48

Solids: Preparation: 5030B Dilution: 1

Batch: 5B06004 Sequence: 5B04025 Calibration: 4295001 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	U
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	UX
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U
95-47-6	o-Xylene		0.250	0.500	1.00	U

Total Target Analytes Reported 35 Project Analytes: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	28.29	94.3	75 - 120	
Dibromofluoromethane	30.00	30.14	100	85 - 115	
1,2-Dichloroethane-d4	30.00	30.21	101	70 - 120	

ANALYSIS DATA SHEET

Trip Blank 14-0840

Laboratory:	Empirical Laboratories, LLC			SDG:	1501124
Client:	CB&I			Project:	Radford AAP
Matrix:	Water	Laboratory ID:	1501124-02	File ID:	0112402A.D
Sampled:	01/28/15 08:00	Prepared:	02/06/15 10:48	Analyzed:	02/06/15 10:48
Solids:		Preparation:	5030B	Dilution:	1
Batch:	5B06004	Sequence:	5B04025	Calibration:	4295001
Instrument:	MS-VOA3				

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	27.81	92.7	85 - 120	

ANALYSIS DATA SHEET

48MW2

Laboratory: Empirical Laboratories, LLC SDG: 1501124

Client: CB&I Project: Radford AAP

Matrix: Water Laboratory ID: 1501124-03 File ID: 0112403B.D

Sampled: 01/28/15 12:00 Prepared: 02/06/15 14:34 Analyzed: 02/06/15 14:34

Solids: Preparation: 5030B Dilution: 1

Batch: 5B06004 Sequence: 5B04025 Calibration: 4295001 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	U
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride	**118**	0.250	0.500	1.00	X
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform	**7.46**	0.250	0.500	1.00	
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene	**0.469**	0.250	0.500	1.00	J
591-78-6	2-Hexanone		1.25	2.50	5.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene	**10.5**	0.250	0.500	1.00	
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene	**1.32**	0.500	1.00	2.00	J
95-47-6	o-Xylene	**0.919**	0.250	0.500	1.00	J

Total Target Analytes Reported 35 Project Analytes: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	29.65	98.8	75 - 120	
Dibromofluoromethane	30.00	30.75	102	85 - 115	
1,2-Dichloroethane-d4	30.00	30.47	102	70 - 120	

ANALYSIS DATA SHEET

48MW2

Laboratory:	Empirical Laboratories, LLC			SDG:	1501124
Client:	CB&I			Project:	Radford AAP
Matrix:	Water	Laboratory ID:	1501124-03	File ID:	0112403B.D
Sampled:	01/28/15 12:00	Prepared:	02/06/15 14:34	Analyzed:	02/06/15 14:34
Solids:		Preparation:	5030B	Dilution:	1
Batch:	5B06004	Sequence:	5B04025	Calibration:	4295001
Instrument:	MS-VOA3				

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	29.01	96.7	85 - 120	

ANALYSIS DATA SHEET

49MW01

Laboratory: Empirical Laboratories, LLC SDG: 1501124

Client: CB&I Project: Radford AAP

Matrix: Water Laboratory ID: 1501124-04 File ID: 0112404B.D

Sampled: 01/28/15 13:20 Prepared: 02/06/15 14:59 Analyzed: 02/06/15 14:59

Solids: Preparation: 5030B Dilution: 1

Batch: 5B06004 Sequence: 5B04025 Calibration: 4295001 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	U
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride	**4.97**	0.250	0.500	1.00	X
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform	**0.404**	0.250	0.500	1.00	J
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene	**0.262**	0.250	0.500	1.00	J
591-78-6	2-Hexanone		1.25	2.50	5.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane	**0.262**	0.250	0.500	1.00	J
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene	**0.690**	0.500	1.00	2.00	J
95-47-6	o-Xylene	**0.544**	0.250	0.500	1.00	J

Total Target Analytes Reported 35 Project Analytes: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	29.07	96.9	75 - 120	
Dibromofluoromethane	30.00	30.83	103	85 - 115	
1,2-Dichloroethane-d4	30.00	29.13	97.1	70 - 120	

ANALYSIS DATA SHEET

49MW01

Laboratory:	Empirical Laboratories, LLC			SDG:	1501124
Client:	CB&I			Project:	Radford AAP
Matrix:	Water	Laboratory ID:	1501124-04	File ID:	0112404B.D
Sampled:	01/28/15 13:20	Prepared:	02/06/15 14:59	Analyzed:	02/06/15 14:59
Solids:		Preparation:	5030B	Dilution:	1
Batch:	5B06004	Sequence:	5B04025	Calibration:	4295001
Instrument:	MS-VOA3				

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	29.35	97.8	85 - 120	

ANALYSIS DATA SHEET

48MW1

Laboratory: Empirical Laboratories, LLC SDG: 1501124

Client: CB&I Project: Radford AAP

Matrix: Water Laboratory ID: 1501124-05 File ID: 0112405B.D

Sampled: 01/28/15 14:30 Prepared: 02/06/15 15:24 Analyzed: 02/06/15 15:24

Solids: Preparation: 5030B Dilution: 1

Batch: 5B06004 Sequence: 5B04025 Calibration: 4295001 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	U
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	UX
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
75-34-3	1,1-Dichloroethane	**0.908**	0.250	0.500	1.00	J
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene	**0.914**	0.250	0.500	1.00	J
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane	**0.454**	0.250	0.500	1.00	J
79-01-6	Trichloroethene	**1.91**	0.250	0.500	1.00	
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene	**0.535**	0.500	1.00	2.00	J
95-47-6	o-Xylene	**0.285**	0.250	0.500	1.00	J

Total Target Analytes Reported 35 Project Analytes: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	28.55	95.2	75 - 120	
Dibromofluoromethane	30.00	30.89	103	85 - 115	
1,2-Dichloroethane-d4	30.00	30.15	100	70 - 120	

ANALYSIS DATA SHEET

48MW1

Laboratory:	Empirical Laboratories, LLC			SDG:	1501124
Client:	CB&I			Project:	Radford AAP
Matrix:	Water	Laboratory ID:	1501124-05	File ID:	0112405B.D
Sampled:	01/28/15 14:30	Prepared:	02/06/15 15:24	Analyzed:	02/06/15 15:24
Solids:		Preparation:	5030B	Dilution:	1
Batch:	5B06004	Sequence:	5B04025	Calibration:	4295001
Instrument:	MS-VOA3				

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	27.91	93.0	85 - 120	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501124
Client: CB&I
Project: Radford AAP
Sequence: 5B04025
Instrument: MS-VOA3
Calibration: 4295001

Surrogate Compound	Spike Level	% Recovery	Recovery Limits	RT	CCV RT	RT Diff	RT Diff Limit	Q
Calibration Check (5B04025-CCV1) ug/L				Lab File ID: 0206CCV1.D		Analyzed: 02/06/15 07:50		
Bromofluorobenzene	30.00	97.4	80 - 120	11.337	11.337	0.0000	+/-1.000	
Dibromofluoromethane	30.00	97.8	80 - 120	5.788	5.788	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	96.0	80 - 120	6.318	6.318	0.0000	+/-1.000	
Toluene-d8	30.00	93.7	80 - 120	8.642	8.642	0.0000	+/-1.000	
LCS (5B06004-BS1) ug/L				Lab File ID: 0206LCS1.D		Analyzed: 02/06/15 08:18		
Bromofluorobenzene	30.00	98.2	75 - 120	11.337	11.337	0.0000	+/-1.000	
Dibromofluoromethane	30.00	94.5	85 - 115	5.788	5.788	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	88.4	70 - 120	6.318	6.318	0.0000	+/-1.000	
Toluene-d8	30.00	94.6	85 - 120	8.642	8.642	0.0000	+/-1.000	
Blank (5B06004-BLK1) ug/L				Lab File ID: 0206BLK1.D		Analyzed: 02/06/15 09:58		
Bromofluorobenzene	30.00	96.4	75 - 120	11.337	11.337	0.0000	+/-1.000	
Dibromofluoromethane	30.00	99.4	85 - 115	5.789	5.788	0.0010	+/-1.000	
1,2-Dichloroethane-d4	30.00	97.3	70 - 120	6.324	6.318	0.0060	+/-1.000	
Toluene-d8	30.00	94.6	85 - 120	8.642	8.642	0.0000	+/-1.000	
Trip Blank 14-0840 (1501124-02) ug/L				Lab File ID: 0112402A.D		Analyzed: 02/06/15 10:48		
Bromofluorobenzene	30.00	94.3	75 - 120	11.337	11.337	0.0000	+/-1.000	
Dibromofluoromethane	30.00	100	85 - 115	5.789	5.788	0.0010	+/-1.000	
1,2-Dichloroethane-d4	30.00	101	70 - 120	6.318	6.318	0.0000	+/-1.000	
Toluene-d8	30.00	92.7	85 - 120	8.642	8.642	0.0000	+/-1.000	
49MW03 (1501124-01) ug/L				Lab File ID: 0112401B.D		Analyzed: 02/06/15 14:09		
Bromofluorobenzene	30.00	96.9	75 - 120	11.337	11.337	0.0000	+/-1.000	
Dibromofluoromethane	30.00	104	85 - 115	5.788	5.788	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	99.1	70 - 120	6.318	6.318	0.0000	+/-1.000	
Toluene-d8	30.00	96.4	85 - 120	8.642	8.642	0.0000	+/-1.000	
48MW2 (1501124-03) ug/L				Lab File ID: 0112403B.D		Analyzed: 02/06/15 14:34		
Bromofluorobenzene	30.00	98.8	75 - 120	11.337	11.337	0.0000	+/-1.000	
Dibromofluoromethane	30.00	102	85 - 115	5.788	5.788	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	102	70 - 120	6.318	6.318	0.0000	+/-1.000	
Toluene-d8	30.00	96.7	85 - 120	8.642	8.642	0.0000	+/-1.000	
49MW01 (1501124-04) ug/L				Lab File ID: 0112404B.D		Analyzed: 02/06/15 14:59		
Bromofluorobenzene	30.00	96.9	75 - 120	11.337	11.337	0.0000	+/-1.000	
Dibromofluoromethane	30.00	103	85 - 115	5.794	5.788	0.0060	+/-1.000	
1,2-Dichloroethane-d4	30.00	97.1	70 - 120	6.324	6.318	0.0060	+/-1.000	
Toluene-d8	30.00	97.8	85 - 120	8.642	8.642	0.0000	+/-1.000	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501124
Client: CB&I
Project: Radford AAP
Sequence: 5B04025
Instrument: MS-VOA3
Calibration: 4295001

Surrogate Compound	Spike Level	% Recovery	Recovery Limits	RT	CCV RT	RT Diff	RT Diff Limit	Q
48MW1 (1501124-05) ug/L				Lab File ID: 0112405B.D		Analyzed: 02/06/15 15:24		
Bromofluorobenzene	30.00	95.2	75 - 120	11.337	11.337	0.0000	+/-1.000	
Dibromofluoromethane	30.00	103	85 - 115	5.795	5.788	0.0070	+/-1.000	
1,2-Dichloroethane-d4	30.00	100	70 - 120	6.324	6.318	0.0060	+/-1.000	
Toluene-d8	30.00	93.0	85 - 120	8.642	8.642	0.0000	+/-1.000	

LCS / LCS DUPLICATE RECOVERY

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501124
Client:	CB&I	Project:	Radford AAP
Matrix:	Water		
Batch:	5B06004	Laboratory ID:	5B06004-BS1
Preparation:	5030B	Initial/Final:	5 mL / 5 mL

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	QC LIMITS REC.
Acetone	100.0	124	124	40 - 140
Benzene	50.00	46.1	92.1	80 - 120
Bromodichloromethane	50.00	47.2	94.5	75 - 120
Bromoform	50.00	54.6	109	70 - 130
Bromomethane	50.00	52.5	105	30 - 145
2-Butanone	100.0	94.2	94.2	30 - 150
Carbon disulfide	50.00	45.6	91.2	35 - 160
Carbon tetrachloride	50.00	54.3	109	65 - 140
Chlorobenzene	50.00	41.9	83.9	80 - 120
Chloroethane	50.00	45.1	90.2	60 - 135
Chloroform	50.00	46.5	93.1	65 - 135
Chloromethane	50.00	46.9	93.8	40 - 125
Dibromochloromethane	50.00	46.0	91.9	60 - 135
1,1-Dichloroethane	50.00	46.7	93.5	70 - 135
1,2-Dichloroethane	50.00	47.3	94.6	70 - 130
1,1-Dichloroethene	50.00	43.0	86.0	70 - 130
cis-1,2-Dichloroethene	50.00	43.6	87.1	70 - 125
trans-1,2-Dichloroethene	50.00	41.6	83.3	60 - 140
1,2-Dichloropropane	50.00	44.8	89.6	75 - 125
cis-1,3-Dichloropropene	50.00	54.9	110	70 - 130
trans-1,3-Dichloropropene	50.00	47.3	94.6	55 - 140
Ethylbenzene	50.00	48.1	96.1	75 - 125
2-Hexanone	100.0	88.7	88.7	55 - 130
Methylene chloride	50.00	44.5	89.0	55 - 140
4-Methyl-2-pentanone	100.0	83.6	83.6	60 - 135
Styrene	50.00	50.0	100	65 - 135
1,1,2,2-Tetrachloroethane	50.00	44.5	89.0	65 - 130
Tetrachloroethene	50.00	46.1	92.1	45 - 150
Toluene	50.00	43.8	87.7	75 - 120
1,1,2-Trichloroethane	50.00	40.5	81.1	75 - 125

LCS / LCS DUPLICATE RECOVERY

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501124
Client:	CB&I	Project:	Radford AAP
Matrix:	Water		
Batch:	5B06004	Laboratory ID:	5B06004-BS1
Preparation:	5030B	Initial/Final:	5 mL / 5 mL

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	QC LIMITS REC.
1,1,1-Trichloroethane	50.00	50.1	100	65 - 130
Trichloroethene	50.00	43.4	86.8	70 - 125
Vinyl chloride	50.00	53.2	106	50 - 145
m,p-Xylene	100.0	98.3	98.3	75 - 130
o-Xylene	50.00	48.6	97.2	80 - 120

PREPARATION BATCH SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC SDG: 1501124

Client: CB&I Project: Radford AAP

Batch: 5B06004 Batch Matrix: Water Preparation: 5030B

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
49MW03	1501124-01	02/06/15 14:09	5.00	5.00
Trip Blank 14-0840	1501124-02	02/06/15 10:48	5.00	5.00
48MW2	1501124-03	02/06/15 14:34	5.00	5.00
49MW01	1501124-04	02/06/15 14:59	5.00	5.00
48MW1	1501124-05	02/06/15 15:24	5.00	5.00
Blank	5B06004-BLK1	02/06/15 09:58	5.00	5.00
LCS	5B06004-BS1	02/06/15 08:18	5.00	5.00

ANALYSIS DATA SHEET

Blank

Laboratory: Empirical Laboratories, LLC SDG: 1501124

Client: CB&I Project: Radford AAP

Matrix: Laboratory ID: 5B06004-BLK1 File ID: 0206BLK1.D

Sampled: Prepared: Analyzed: 02/06/15 09:58

Solids: Preparation: 5030B Dilution:

Batch: 5B06004 Sequence: 5B04025 Calibration: 4295001 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	U
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	U
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	UX
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U
95-47-6	o-Xylene		0.250	0.500	1.00	U

Total Target Analytes Reported: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	28.93	96.4	75 - 120	
Dibromofluoromethane	30.00	29.82	99.4	85 - 115	
1,2-Dichloroethane-d4	30.00	29.18	97.3	70 - 120	

ANALYSIS DATA SHEET

Blank

Laboratory: Empirical Laboratories, LLC SDG: 1501124

Client: CB&I Project: Radford AAP

Matrix: Laboratory ID: 5B06004-BLK1 File ID: 0206BLK1.D

Sampled: Prepared: Analyzed: 02/06/15 09:58

Solids: Preparation: 5030B Dilution:

Batch: 5B06004 Sequence: 5B04025 Calibration: 4295001 Instrument: MS-VOA3

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	28.39	94.6	85 - 120	

ANALYSIS DATA SHEET

LCS

Laboratory: Empirical Laboratories, LLC SDG: 1501124

Client: CB&I Project: Radford AAP

Matrix: Laboratory ID: 5B06004-BS1 File ID: 0206LCS1.D

Sampled: Prepared: Analyzed: 02/06/15 08:18

Solids: Preparation: 5030B Dilution:

Batch: 5B06004 Sequence: 5B04025 Calibration: 4295001 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone	**124**	2.50	5.00	10.0	
71-43-2	Benzene	**46.1**	0.250	0.500	1.00	
75-27-4	Bromodichloromethane	**47.2**	0.250	0.500	1.00	
75-25-2	Bromoform	**54.6**	0.250	0.500	1.00	
74-83-9	Bromomethane	**52.5**	0.500	1.00	2.00	
78-93-3	2-Butanone	**94.2**	2.50	5.00	10.0	
75-15-0	Carbon disulfide	**45.6**	0.250	0.500	1.00	
56-23-5	Carbon tetrachloride	**54.3**	0.250	0.500	1.00	X
108-90-7	Chlorobenzene	**41.9**	0.250	0.500	1.00	
75-00-3	Chloroethane	**45.1**	0.500	1.00	2.00	
67-66-3	Chloroform	**46.5**	0.250	0.500	1.00	
74-87-3	Chloromethane	**46.9**	0.250	0.500	1.00	
124-48-1	Dibromochloromethane	**46.0**	0.250	0.500	1.00	
75-34-3	1,1-Dichloroethane	**46.7**	0.250	0.500	1.00	
107-06-2	1,2-Dichloroethane	**47.3**	0.250	0.500	1.00	
75-35-4	1,1-Dichloroethene	**43.0**	0.250	0.500	1.00	
156-59-2	cis-1,2-Dichloroethene	**43.6**	0.250	0.500	1.00	
156-60-5	trans-1,2-Dichloroethene	**41.6**	0.250	0.500	1.00	
78-87-5	1,2-Dichloropropane	**44.8**	0.250	0.500	1.00	
10061-01-5	cis-1,3-Dichloropropene	**54.9**	0.250	0.500	1.00	
10061-02-6	trans-1,3-Dichloropropene	**47.3**	0.250	0.500	1.00	
100-41-4	Ethylbenzene	**48.1**	0.250	0.500	1.00	
591-78-6	2-Hexanone	**88.7**	1.25	2.50	5.00	
75-09-2	Methylene chloride	**44.5**	0.500	1.00	2.00	
108-10-1	4-Methyl-2-pentanone	**83.6**	1.25	2.50	5.00	
100-42-5	Styrene	**50.0**	0.250	0.500	1.00	
79-34-5	1,1,2,2-Tetrachloroethane	**44.5**	0.250	0.500	1.00	
127-18-4	Tetrachloroethene	**46.1**	0.250	0.500	1.00	
108-88-3	Toluene	**43.8**	0.250	0.500	1.00	
79-00-5	1,1,2-Trichloroethane	**40.5**	0.250	0.500	1.00	
71-55-6	1,1,1-Trichloroethane	**50.1**	0.250	0.500	1.00	
79-01-6	Trichloroethene	**43.4**	0.250	0.500	1.00	
75-01-4	Vinyl chloride	**53.2**	0.250	0.500	1.00	
108-38-3/106-42-	m,p-Xylene	**98.3**	0.500	1.00	2.00	
95-47-6	o-Xylene	**48.6**	0.250	0.500	1.00	

Total Target Analytes Reported: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	29.45	98.2	75 - 120	
Dibromofluoromethane	30.00	28.35	94.5	85 - 115	
1,2-Dichloroethane-d4	30.00	26.51	88.4	70 - 120	

ANALYSIS DATA SHEET

LCS

Laboratory: Empirical Laboratories, LLC SDG: 1501124

Client: CB&I Project: Radford AAP

Matrix: Laboratory ID: 5B06004-BS1 File ID: 0206LCS1.D

Sampled: Prepared: Analyzed: 02/06/15 08:18

Solids: Preparation: 5030B Dilution:

Batch: 5B06004 Sequence: 5B04025 Calibration: 4295001 Instrument: MS-VOA3

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	28.37	94.6	85 - 120	

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501124
Client:	CB&I	Project:	Radford AAP
Lab File ID:	1016TU1.D	Injection Date:	10/16/14
Instrument ID:	MS-VOA3	Injection Time:	12:01
Sequence:	4J29412	Lab Sample ID:	4J29412-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	25.7	PASS
75	30 - 60% of 95	50.1	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	7.04	PASS
173	Less than 2% of 174	1.47	PASS
174	50 - 200% of 95	85.5	PASS
175	5 - 9% of 174	8.22	PASS
176	95 - 101% of 174	97	PASS
177	5 - 9% of 176	6.57	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501124
Client:	CB&I	Project:	Radford AAP
Lab File ID:	0206TUN1.D	Injection Date:	02/06/15
Instrument ID:	MS-VOA3	Injection Time:	07:21
Sequence:	5B04025	Lab Sample ID:	5B04025-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	24.6	PASS
75	30 - 60% of 95	52	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.38	PASS
173	Less than 2% of 174	0.667	PASS
174	50 - 200% of 95	78.5	PASS
175	5 - 9% of 174	7.49	PASS
176	95 - 101% of 174	100	PASS
177	5 - 9% of 176	7	PASS

ANALYSIS SEQUENCE SUMMARY

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501124
Client:	CB&I	Project:	Radford AAP
Sequence:	4J29412	Instrument:	MS-VOA3
Calibration:	4295001		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	4J29412-TUN1	1016TU1.D	10/16/14 12:01
Cal Standard	4J29412-CAL1	1016CAL1.D	10/16/14 13:21
Cal Standard	4J29412-CAL2	1016CAL2.D	10/16/14 13:46
Cal Standard	4J29412-CAL3	1016CAL3.D	10/16/14 14:11
Cal Standard	4J29412-CAL4	1016CAL4.D	10/16/14 14:36
Cal Standard	4J29412-CAL5	1016CAL5.D	10/16/14 15:01
Cal Standard	4J29412-CAL6	1016CAL6.D	10/16/14 15:26
Cal Standard	4J29412-CAL7	1016CAL7.D	10/16/14 15:51
Cal Standard	4J29412-CAL8	1016CAL8.D	10/16/14 16:16
Cal Standard	4J29412-CAL9	1016CAL9.D	10/16/14 16:41
Initial Cal Check	4J29412-ICV2	1016ICV2.D	10/16/14 17:56

ANALYSIS SEQUENCE SUMMARY

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501124
Client:	CB&I	Project:	Radford AAP
Sequence:	5B04025	Instrument:	MS-VOA3
Calibration:	4295001		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	5B04025-TUN1	0206TUN1.D	02/06/15 07:21
Calibration Check	5B04025-CCV1	0206CCV1.D	02/06/15 07:50
LCS	5B06004-BS1	0206LCS1.D	02/06/15 08:18
Blank	5B06004-BLK1	0206BLK1.D	02/06/15 09:58
Trip Blank 14-0840	1501124-02	0112402A.D	02/06/15 10:48
49MW03	1501124-01	0112401B.D	02/06/15 14:09
48MW2	1501124-03	0112403B.D	02/06/15 14:34
49MW01	1501124-04	0112404B.D	02/06/15 14:59
48MW1	1501124-05	0112405B.D	02/06/15 15:24

INTERNAL STANDARD AREA AND RT SUMMARY
SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501124
Client: CB&I
Project: Radford AAP
Sequence: 5B04025
Instrument: MS-VOA3
Calibration: 4295001

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (5B04025-CCV1)			Lab File ID: 0206CCV1.D				Analyzed: 02/06/15 07:50		
Fluorobenzene	1096200	6.865	928682	6.865	118	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	494058	10.114	373192	10.114	132	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	441462	12.547	347318	12.547	127	50 - 200	0.0000	+/-0.50	
LCS (5B06004-BS1)			Lab File ID: 0206LCS1.D				Analyzed: 02/06/15 08:18		
Fluorobenzene	1152763	6.865	928682	6.865	124	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	499067	10.114	373192	10.114	134	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	447225	12.547	347318	12.547	129	50 - 200	0.0000	+/-0.50	
Blank (5B06004-BLK1)			Lab File ID: 0206BLK1.D				Analyzed: 02/06/15 09:58		
Fluorobenzene	1033721	6.871	928682	6.865	111	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	449299	10.114	373192	10.114	120	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	379172	12.547	347318	12.547	109	50 - 200	0.0000	+/-0.50	
Trip Blank 14-0840 (1501124-02)			Lab File ID: 0112402A.D				Analyzed: 02/06/15 10:48		
Fluorobenzene	1059304	6.865	928682	6.865	114	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	465947	10.114	373192	10.114	125	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	375959	12.554	347318	12.547	108	50 - 200	0.0070	+/-0.50	
49MW03 (1501124-01)			Lab File ID: 0112401B.D				Analyzed: 02/06/15 14:09		
Fluorobenzene	1007307	6.871	928682	6.865	108	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	439013	10.114	373192	10.114	118	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	362814	12.553	347318	12.547	104	50 - 200	0.0060	+/-0.50	
48MW2 (1501124-03)			Lab File ID: 0112403B.D				Analyzed: 02/06/15 14:34		
Fluorobenzene	997636	6.871	928682	6.865	107	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	425255	10.114	373192	10.114	114	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	359740	12.553	347318	12.547	104	50 - 200	0.0060	+/-0.50	
49MW01 (1501124-04)			Lab File ID: 0112404B.D				Analyzed: 02/06/15 14:59		
Fluorobenzene	986137	6.865	928682	6.865	106	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	416476	10.114	373192	10.114	112	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	353299	12.547	347318	12.547	102	50 - 200	0.0000	+/-0.50	
48MW1 (1501124-05)			Lab File ID: 0112405B.D				Analyzed: 02/06/15 15:24		
Fluorobenzene	980873	6.871	928682	6.865	106	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	436053	10.114	373192	10.114	117	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	364097	12.547	347318	12.547	105	50 - 200	0.0000	+/-0.50	

INITIAL CALIBRATION DATA

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501124
Client: CB&I
Project: Radford AAP
Calibration: 4295001
Instrument: MS-VOA3
Matrix: Water
Calibration Dates: 10/16/14 13:21 10/16/14 16:41

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Acetone	1	~~0.2831877~~	2	0.2145004	4	0.2064464	10	0.1836217	20	0.1740537	100	0.162726
Acetonitrile	5	9.114622E-02	10	8.091982E-02	20	8.768087E-02	50	8.047303E-02	100	7.916384E-02	500	0.0745941
Acrolein	2.5	9.031621E-02	5	7.689738E-02	10	7.350392E-02	25	7.264452E-02	50	6.503572E-02	250	6.552477E-02
Acrylonitrile	2.5	0.2130309	5	0.2070217	10	0.1895143	25	0.2065787	50	0.1936815	250	0.1939173
Benzene	0.5	1.151321	1	1.159016	2	1.078146	5	1.159414	10	1.161027	50	1.130505
Allyl chloride	0.5	0.1565059	1	0.151439	2	0.1459895	5	0.130378	10	0.1275792	50	0.1330715
Bromobenzene	0.5	0.8439445	1	0.9205713	2	0.837176	5	0.8969543	10	0.8549328	50	0.8604857
Bromochloromethane	0.5	0.1938563	1	0.184174	2	0.169827	5	0.1654215	10	0.1518663	50	0.1511496
Tert-Amyl Methyl Ether	0.5	0.7224594	1	0.7488617	2	0.7534536	5	0.766632	10	0.7831078	50	0.8120617
Bromodichloromethane	0.5	0.4273139	1	0.4245003	2	0.4319698	5	0.3959077	10	0.3850038	50	0.3911307
Bromoform	0.5	0.4445651	1	0.4034796	2	0.4714086	5	0.4362794	10	0.4330809	50	0.4842183
Bromomethane	0.5	~~0.3187093~~	1	0.2394121	2	0.2032553	5	0.1563143	10	0.153635	50	0.1290641
Bromofluorobenzene	30	0.8163645	35	0.846126	40	0.8549964	50	0.8967081	60	0.8964288	70	0.9749375
n-Butylbenzene	0.5	1.673447	1	1.85992	2	1.744421	5	1.893006	10	2.176445	50	2.770877
2-Butanone	1	0.2794949	2	0.2617043	4	0.2749684	10	0.2800998	20	0.2674835	100	0.2633588
sec-Butylbenzene	0.5	2.724462	1	2.744201	2	2.880409	5	3.018196	10	3.346992	50	3.680258
tert-Butylbenzene	0.5	2.164477	1	2.458457	2	2.587807	5	2.51573	10	2.705307	50	2.889938
Carbon disulfide	0.5	0.7875236	1	0.789754	2	0.8252974	5	0.7255999	10	0.7251219	50	0.7337952
Carbon tetrachloride	0.5	0.3251102	1	0.314235	2	0.3258432	5	0.3560761	10	0.3354173	50	0.3513723
Chlorobenzene	0.5	1.731856	1	1.859688	2	1.963331	5	1.973945	10	1.927752	50	2.037209
Chloroethane	0.5	0.2327542	1	0.2951073	2	0.1873694	5	0.1854332	10	0.1766007	50	0.1713208
Chloroform	0.5	0.594019	1	0.6594118	2	0.5547495	5	0.5371191	10	0.5124922	50	0.5131066
2-Chloroethyl vinyl ether	1	0.1964237	2	0.1851057	4	0.1871079	10	0.1946576	20	0.1945244	100	0.2011486
Chloromethane	0.5	~~0.7838659~~	1	0.5763963	2	0.5165433	5	0.4332316	10	0.4260328	50	0.4053643
1-Chlorohexane	0.5	0.9194174	1	0.6327491	2	0.6548684	5	0.683508	10	0.6801708	50	0.792774
2-Chlorotoluene	0.5	2.145966	1	2.330324	2	2.324219	5	2.322964	10	2.329676	50	2.455515
Chloroprene	0.5	0.5017333	1	0.5351172	2	0.4753202	5	0.5197074	10	0.5231042	50	0.5509296
4-Chlorotoluene	0.5	1.799154	1	2.181079	2	2.167157	5	2.24691	10	2.295174	50	2.482293
Cyclohexane	0.5	0.516364	1	0.4498514	2	0.4972222	5	0.5362027	10	0.5296509	50	0.5703271
Dibromochloromethane	0.5	0.7244109	1	0.7121249	2	0.6896981	5	0.7070392	10	0.70418	50	0.7533795
1,2-Dibromo-3-chloropropane	0.5	0.2408364	1	0.1654927	2	0.208974	5	0.2116183	10	0.1882137	50	0.2111388

INITIAL CALIBRATION DATA

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501124
Client: CB&I
Project: Radford AAP
Calibration: 4295001
Instrument: MS-VOA3
Matrix: Water
Calibration Dates: 10/16/14 13:21 10/16/14 16:41

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
1,2-Dibromoethane (EDB)	0.5	0.7068763	1	0.7777794	2	0.7161388	5	0.7459431	10	0.7224114	50	0.761919
Dibromomethane	0.5	0.2165057	1	0.2365289	2	0.2203444	5	0.2148718	10	0.2108341	50	0.2049623
1,2-Dichlorobenzene	0.5	1.58293	1	1.511908	2	1.653208	5	1.616671	10	1.62121	50	1.649454
1,3-Dichlorobenzene	0.5	1.464546	1	1.522708	2	1.531038	5	1.49741	10	1.54218	50	1.629165
trans-1,4-Dichloro-2-butene	0.5	~~0.503641~~	1	0.4178666	2	0.3027942	5	0.3357532	10	0.3149757	50	0.3561281
cis-1,4-Dichloro-2-butene	0.5	~~0.289858~~	1	0.2934309	2	0.3370701	5	0.3121928	10	0.3015181	50	0.3403299
1,4-Dichlorobenzene	0.5	1.582726	1	1.594898	2	1.550997	5	1.571378	10	1.540753	50	1.642729
Dichlorodifluoromethane	0.5	0.3034456	1	0.3038273	2	0.2602247	5	0.2393305	10	0.3083931	50	0.2938299
1,1-Dichloroethane	0.5	0.6050624	1	0.6104675	2	0.5991288	5	0.6357284	10	0.5871392	50	0.574594
1,2-Dichloroethane	0.5	0.5117919	1	0.5244282	2	0.551541	5	0.5305196	10	0.5115406	50	0.506878
1,1-Dichloroethene	0.5	0.2444306	1	0.253582	2	0.2398573	5	0.2482814	10	0.2388604	50	0.2360433
cis-1,2-Dichloroethene	0.5	0.3573258	1	0.307484	2	0.2774532	5	0.3122947	10	0.2985646	50	0.2958238
trans-1,2-Dichloroethene	0.5	0.2855793	1	0.3188763	2	0.2559175	5	0.2709855	10	0.2741967	50	0.2589648
1,2-Dichloroethene (total)	1	0.3214526	2	0.3131801	4	0.2666854	10	0.2916401	20	0.2863806	100	0.2773943
1,2-Dichloropropane	0.5	0.4029763	1	0.3800214	2	0.344275	5	0.357298	10	0.344227	50	0.3354818
1,3-Dichloropropane	0.5	1.241594	1	1.271751	2	1.235597	5	1.251729	10	1.225639	50	1.27214
2,2-Dichloropropane	0.5	0.455098	1	0.4092755	2	0.3855154	5	0.3792277	10	0.3799265	50	0.3810865
1,1-Dichloropropene	0.5	0.348674	1	0.3798808	2	0.3624103	5	0.343218	10	0.3555048	50	0.3576954
cis-1,3-Dichloropropene	0.5	0.4183807	1	0.3963714	2	0.4078533	5	0.410698	10	0.404291	50	0.4224566
trans-1,3-Dichloropropene	0.5	0.9187089	1	0.9388759	2	0.9680721	5	0.973114	10	1.012742	50	1.077342
Diisopropyl Ether	0.5	1.374298	1	1.376066	2	1.359627	5	1.395477	10	1.370086	50	1.420054
1,4-Dioxane	10	5.293065E-03	20	5.195056E-03	40	4.626255E-03	100	4.735107E-03	200	4.187463E-03	1000	4.618499E-03
Ethylbenzene	0.5	2.695021	1	2.657876	2	2.907598	5	2.898625	10	2.977151	50	3.313279
Ethyl tert-Butyl Ether	0.5	1.035049	1	1.002901	2	1.068311	5	1.067617	10	1.016911	50	1.043041
Ethyl Methacrylate	0.5	0.8588432	1	0.9542474	2	0.8202765	5	0.9285456	10	0.8916705	50	1.013883
Hexachlorobutadiene	0.5	0.4784183	1	0.3555028	2	0.4540254	5	0.4496404	10	0.4938793	50	0.477372
Hexane	0.5	0.2804445	1	0.2405021	2	0.2508606	5	0.2466973	10	0.266278	50	0.3149691
2-Hexanone	1	0.890193	2	0.7413915	4	0.8443015	10	0.8460974	20	0.8034319	100	0.917986
Iodomethane	0.5	0.1765527	1	0.1410664	2	0.1561557	5	0.1778391	10	0.2124582	50	0.2860403
Isobutyl alcohol	10	~~8.036315E-03~~	20	1.162954E-02	40	1.165806E-02	100	1.207344E-02	200	1.176699E-02	1000	1.293507E-02
Isopropylbenzene	0.5	2.054033	1	2.261952	2	2.536857	5	2.590636	10	2.804258	50	3.048067

INITIAL CALIBRATION DATA

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501124
Client: CB&I
Project: Radford AAP
Calibration: 4295001
Instrument: MS-VOA3
Matrix: Water
Calibration Dates: 10/16/14 13:21 10/16/14 16:41

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
p-Isopropyltoluene	0.5	2.440503	1	2.230503	2	2.378976	5	2.623635	10	2.827869	50	3.178612
Methacrylonitrile	5	0.330034	10	0.3336615	20	0.3267657	50	0.3452114	100	0.3397008	500	0.3434933
Methylene chloride	0.5	~~0.7573479~~	1	0.5201386	2	0.3669267	5	0.3587756	10	0.3220044	50	0.292613
Methyl Acetate	0.5	0.4885094	1	0.4816019	2	0.4531916	5	0.4670675	10	0.4488808	50	0.4181339
Methylcyclohexane	0.5	0.3808193	1	0.3517871	2	0.3604224	5	0.3783397	10	0.3975021	50	0.4351422
Naphthalene	0.5	2.310117	1	2.36924	2	2.425293	5	2.518241	10	2.675355	50	3.387395
Methyl Methacrylate	0.5	0.3642191	1	0.4012236	2	0.3995878	5	0.4122609	10	0.4062647	50	0.4469058
4-Methyl-2-pentanone	1	0.527548	2	0.4709481	4	0.5124628	10	0.4876013	20	0.4934689	100	0.5107059
Methyl t-Butyl Ether	0.5	0.82818	1	0.8962219	2	0.8882305	5	0.874107	10	0.8165308	50	0.8323741
n-Propylbenzene	0.5	2.902648	1	3.202444	2	3.216104	5	3.493465	10	3.594487	50	3.962358
Propionitrile	5	6.920726E-02	10	7.337072E-02	20	7.194498E-02	50	7.673495E-02	100	7.639417E-02	500	7.307815E-02
Styrene	0.5	1.474504	1	1.501628	2	1.613805	5	1.795404	10	1.792101	50	2.071283
1,1,2,2-Tetrachloroethane	0.5	1.202148	1	1.097155	2	1.052977	5	1.02781	10	1.011611	50	0.9925428
1,1,1,2-Tetrachloroethane	0.5	0.7465506	1	0.6337912	2	0.6701091	5	0.6731051	10	0.6464698	50	0.6742159
tert-Butyl alcohol	2.5	4.821085E-02	5	0.0418558	10	0.040107	25	3.776862E-02	50	3.839076E-02	250	4.064308E-02
Tetrachloroethene	0.5	0.569433	1	0.6583682	2	0.7135474	5	0.6932162	10	0.7049933	50	0.7252889
Toluene	0.5	1.780917	1	1.738106	2	1.687637	5	1.785126	10	1.708899	50	1.770882
1,2,3-Trichlorobenzene	0.5	0.9879582	1	0.9272844	2	0.8547169	5	0.9310762	10	0.9786849	50	1.118576
1,2,4-Trichlorobenzene	0.5	0.761157	1	0.768213	2	0.807309	5	0.8291168	10	0.8660104	50	1.053462
1,1,2-Trichloroethane	0.5	0.6712757	1	0.6148591	2	0.6689672	5	0.6538135	10	0.6149545	50	0.6142855
1,1,1-Trichloroethane	0.5	0.4529175	1	0.4658849	2	0.4589984	5	0.457257	10	0.4239077	50	0.4291777
Tetrahydrofuran	0.5	~~8.729161E-02~~	1	6.441518E-02	2	4.716932E-02	5	5.142516E-02	10	0.0469133	50	4.590161E-02
Trichloroethene	0.5	0.297115	1	0.3396916	2	0.2978032	5	0.2816911	10	0.2788672	50	0.2920541
Trichlorofluoromethane	0.5	0.450948	1	0.4179955	2	0.3825336	5	0.4111598	10	0.395488	50	0.3906283
1,2,3-Trichloropropane	0.5	0.3320955	1	0.4021769	2	0.3554121	5	0.3350117	10	0.3295295	50	0.3326681
1,3,5-Trimethylbenzene	0.5	2.117896	1	2.143816	2	2.463125	5	2.626552	10	2.721993	50	2.991009
1,2,4-Trimethylbenzene	0.5	2.326797	1	2.303763	2	2.405145	5	2.610359	10	2.885742	50	3.149974
1,1,2-Trichloro-1,2,2-trifluoroethan	0.5	0.2858607	1	0.2604033	2	0.2435367	5	0.2633915	10	0.250508	50	0.2526273
Vinyl chloride	0.5	0.3318628	1	0.2852974	2	0.2314697	5	0.2610898	10	0.2629828	50	0.2316864
m,p-Xylene	1	2.094593	2	2.207414	4	2.287076	10	2.366137	20	2.459229	100	2.645263
o-Xylene	0.5	2.059878	1	2.318575	2	2.413526	5	2.647567	10	2.615607	50	2.884386

INITIAL CALIBRATION DATA

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501124
Client: CB&I
Project: Radford AAP
Calibration: 4295001
Instrument: MS-VOA3
Matrix: Water
Calibration Dates: 10/16/14 13:21 10/16/14 16:41

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Vinyl acetate	1	0.7834087	2	0.838083	4	0.8432758	10	0.8788524	20	0.8594562	100	0.9150157
Xylenes (total)	1.5	2.083021	3	2.244467	6	2.329226	15	2.459947	30	2.511355	150	2.72497
Dibromofluoromethane	30	0.2823882	35	0.2796786	40	0.2835722	50	0.2860927	60	0.2813022	70	0.2719434
1,2-Dichloroethane-d4	30	6.706776E-02	35	6.776252E-02	40	6.789069E-02	50	7.134238E-02	60	6.946825E-02	70	6.788592E-02
Toluene-d8	30	2.374072	35	2.333834	40	2.385006	50	2.424655	60	2.420819	70	2.478278
tert-Amyl alcohol	2.5	2.466111E-02	5	3.134966E-02	10	2.888053E-02	25	2.795386E-02	50	2.911839E-02	250	3.071066E-02
tert-Amyl ethyl ether	0.5	0.7169729	1	0.7305076	2	0.7629572	5	0.7768261	10	0.7750648	50	0.823663
1,3,5-Trichlorobenzene	0.5	1.084984	1	0.910453	2	0.9285784	5	0.8726923	10	1.031728	50	1.161346
Diethyl ether	0.5	0.3179356	1	0.2789332	2	0.2779589	5	0.27252	10	0.2675827	50	0.2570301

INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501124
Client: CB&I
Project: Radford AAP
Calibration: 4295001
Instrument: MS-VOA3
Matrix: Water
Calibration Dates: 10/16/14 13:21 10/16/14 16:41

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Acetone	200	0.1599845	300	0.1561937	400	0.1505949						
Acetonitrile	1000	7.352972E-02	1500	7.584072E-02	2000	7.002842E-02						
Acrolein	500	6.822378E-02	750	7.365585E-02	1000	0.0723494						
Acrylonitrile	500	0.1923301	750	0.1909774	1000	0.1882756						
Benzene	100	1.124629	150	1.112826	200	1.103169						
Allyl chloride	100	0.1321046	150	0.1265529	200	0.1236887						
Bromobenzene	100	0.9132225	150	0.881261	200	0.9201046						
Bromochloromethane	100	0.1468513	150	0.1430919	200	0.140232						
Tert-Amyl Methyl Ether	100	0.8235949	150	0.8256815	200	0.827518						
Bromodichloromethane	100	0.4031426	150	0.4030735	200	0.4007823						
Bromoform	100	0.4962221	150	0.5115593	200	0.5395074						
Bromomethane	100	0.1400872	150	0.1466216	200	0.1527915						
Bromofluorobenzene	30	0.9103009	30	0.9295138	30	0.9406898						
n-Butylbenzene	100	2.971846	150	2.860801	200	2.966754						
2-Butanone	200	0.2647127	300	0.2638735	400	0.2615459						
sec-Butylbenzene	100	3.859276	150	3.609866	200	3.731563						
tert-Butylbenzene	100	3.021169	150	2.85244	200	2.995619						
Carbon disulfide	100	0.7413807	150	0.7308015	200	0.7379922						
Carbon tetrachloride	100	0.360843	150	0.3643772	200	0.3654159						
Chlorobenzene	100	1.967972	150	1.961442	200	1.983058						
Chloroethane	100	0.1712763	150	0.1748498	200	0.1669693						
Chloroform	100	0.5142966	150	0.5073537	200	0.502146						
2-Chloroethyl vinyl ether	200	0.1955504	300	0.1928591	400	0.1916976						
Chloromethane	100	0.4072417	150	0.419822	200	0.4139386						
1-Chlorohexane	100	0.8239735	150	0.8495812	200	0.8869521						
2-Chlorotoluene	100	2.57514	150	2.407607	200	2.540176						
Chloroprene	100	0.5627323	150	0.5695029	200	0.5692397						
4-Chlorotoluene	100	2.621342	150	2.475829	200	2.604864						
Cyclohexane	100	0.5748489	150	0.5829949	200	0.5735414						
Dibromochloromethane	100	0.7640236	150	0.7765083	200	0.8030505						
1,2-Dibromo-3-chloropropane	100	0.2341459	150	0.2319362	200	0.2422095						

INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501124
Client: CB&I
Project: Radford AAP
Calibration: 4295001
Instrument: MS-VOA3
Matrix: Water
Calibration Dates: 10/16/14 13:21 10/16/14 16:41

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
1,2-Dibromoethane (EDB)	100	0.734986	150	0.7453574	200	0.7584881						
Dibromomethane	100	0.2032661	150	0.2015954	200	0.2008686						
1,2-Dichlorobenzene	100	1.705711	150	1.61263	200	1.687973						
1,3-Dichlorobenzene	100	1.706185	150	1.600168	200	1.677371						
trans-1,4-Dichloro-2-butene	100	0.3793866	150	0.3584148	200	0.3825399						
cis-1,4-Dichloro-2-butene	100	0.3745582	150	0.3580912	200	0.379079						
1,4-Dichlorobenzene	100	1.723801	150	1.620891	200	1.711445						
Dichlorodifluoromethane	100	0.2922623	150	0.2881929	200	0.2826944						
1,1-Dichloroethane	100	0.5766117	150	0.5777709	200	0.5694591						
1,2-Dichloroethane	100	0.4985737	150	0.4948809	200	0.4878803						
1,1-Dichloroethene	100	0.2346606	150	0.2253321	200	0.239081						
cis-1,2-Dichloroethene	100	0.2942884	150	0.2942657	200	0.2928889						
trans-1,2-Dichloroethene	100	0.2614515	150	0.2584178	200	0.2602438						
1,2-Dichloroethene (total)	200	0.2778699	300	0.2763418	400	0.2765664						
1,2-Dichloropropane	100	0.3394986	150	0.3394781	200	0.3403785						
1,3-Dichloropropane	100	1.198097	150	1.197102	200	1.209856						
2,2-Dichloropropane	100	0.3766044	150	0.3753931	200	0.3738345						
1,1-Dichloropropene	100	0.3702447	150	0.3720801	200	0.3779045						
cis-1,3-Dichloropropene	100	0.4420106	150	0.4425348	200	0.4462925						
trans-1,3-Dichloropropene	100	1.084273	150	1.113828	200	1.147358						
Diisopropyl Ether	100	1.406047	150	1.373279	200	1.382991						
1,4-Dioxane	2000	4.592541E-03	3000	4.647958E-03	4000	4.820193E-03						
Ethylbenzene	100	3.225555	150	3.224901	200	3.254038						
Ethyl tert-Butyl Ether	100	1.04244	150	1.033881	200	1.048188						
Ethyl Methacrylate	100	1.015996	150	1.040446	200	1.082912						
Hexachlorobutadiene	100	0.5134709	150	0.5287658	200	0.5806636						
Hexane	100	0.3193484	150	0.3280953	200	0.3257837						
2-Hexanone	200	0.906556	300	0.914025	400	0.923936						
Iodomethane	100	0.3045781	150	0.3045269	200	0.3002998						
Isobutyl alcohol	2000	1.340708E-02	3000	1.402714E-02	4000	1.446794E-02						
Isopropylbenzene	100	3.021929	150	3.02427	200	3.057088						

INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501124
Client: CB&I
Project: Radford AAP
Calibration: 4295001
Instrument: MS-VOA3
Matrix: Water
Calibration Dates: 10/16/14 13:21 10/16/14 16:41

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
p-Isopropyltoluene	100	3.343767	150	3.132065	200	3.228946						
Methacrylonitrile	1000	0.3328721	1500	0.3174696	2000	0.2891114						
Methylene chloride	100	0.2872807	150	0.2802773	200	0.2812311						
Methyl Acetate	100	0.4106206	150	0.4047243	200	0.3997302						
Methylcyclohexane	100	0.438318	150	0.4378804	200	0.4362732						
Naphthalene	100	3.754115	150	3.855196	200	4.183866						
Methyl Methacrylate	100	0.4589517	150	0.4646012	200	0.4704675						
4-Methyl-2-pentanone	200	0.524895	300	0.5214835	400	0.5175671						
Methyl t-Butyl Ether	100	0.8459411	150	0.8552579	200	0.8603508						
n-Propylbenzene	100	4.111074	150	3.859742	200	4.02087						
Propionitrile	1000	7.342286E-02	1500	0.0731085	2000	7.195543E-02						
Styrene	100	2.074578	150	2.095207	200	2.137256						
1,1,2,2-Tetrachloroethane	100	1.033138	150	0.9744785	200	1.025081						
1,1,1,2-Tetrachloroethane	100	0.6720924	150	0.6739383	200	0.6955515						
tert-Butyl alcohol	500	4.037664E-02	750	0.0448997	1000	4.333842E-02						
Tetrachloroethene	100	0.7043905	150	0.7102588	200	0.7241134						
Toluene	100	1.713484	150	1.716999	200	1.757599						
1,2,3-Trichlorobenzene	100	1.226432	150	1.298077	200	1.455935						
1,2,4-Trichlorobenzene	100	1.180609	150	1.245719	200	1.37872						
1,1,2-Trichloroethane	100	0.584117	150	0.585268	200	0.5949616						
1,1,1-Trichloroethane	100	0.4258438	150	0.4291811	200	0.4300776						
Tetrahydrofuran	100	4.413997E-02	150	4.513065E-02	200	4.550373E-02						
Trichloroethene	100	0.2905359	150	0.2902553	200	0.293754						
Trichlorofluoromethane	100	0.3823509	150	0.3853887	200	0.3790659						
1,2,3-Trichloropropane	100	0.3117237	150	0.3132538	200	0.3215403						
1,3,5-Trimethylbenzene	100	3.121213	150	2.896912	200	3.031967						
1,2,4-Trimethylbenzene	100	3.266343	150	3.066294	200	3.180397						
1,1,2-Trichloro-1,2,2-trifluoroethan	100	0.2481333	150	0.236933	200	0.2438021						
Vinyl chloride	100	0.2483306	150	0.2374711	200	0.2250952						
m,p-Xylene	200	2.526596	300	2.464894	400	2.439722						
o-Xylene	100	2.763501	150	2.690179	200	2.746156						

INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501124
Client: CB&I
Project: Radford AAP
Calibration: 4295001
Instrument: MS-VOA3
Matrix: Water
Calibration Dates: 10/16/14 13:21 10/16/14 16:41

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Vinyl acetate	200	0.9370028	300	0.9379896	400	0.9264027						
Xylenes (total)	300	2.605565	450	2.539989	600	2.541867						
Dibromofluoromethane	30	0.2653276	30	0.2660985	30	0.2628729						
1,2-Dichloroethane-d4	30	6.156898E-02	30	0.0653583	30	6.253307E-02						
Toluene-d8	30	2.353654	30	2.367361	30	2.40618						
tert-Amyl alcohol	500	0.0325668	750	3.355438E-02	1000	3.440976E-02						
tert-Amyl ethyl ether	100	0.8505777	150	0.8442168	200	0.8430542						
1,3,5-Trichlorobenzene	100	1.264218	150	1.265961	200	1.367529						
Diethyl ether	100	0.2694005	150	0.2714491	200	0.2538955						

INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501124
Client: CB&I
Project: Radford AAP
Calibration: 4295001
Instrument: MS-VOA3
Matrix: Water
Calibration Dates: 10/16/14 13:21 10/16/14 16:41

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Acetone	0.1760152	13.48137	2.79575	7.676325E-02			15	
Acetonitrile	7.926408E-02	8.556035	2.851333	9.238988E-02			15	
Acrolein	7.312795E-02	10.34956	2.716	1.217138E-02			15	
Acrylonitrile	0.1972586	4.60223	3.434	1.919701E-02			15	
Benzene	1.131117	2.586204	6.581111	4.869397E-02			15	
Allyl chloride	0.1363677	8.694126	3.496333	0.0752812			15	
Bromobenzene	0.8809614	3.760915	11.489	1.594943E-02			15	
Bromochloromethane	0.1607189	11.73555	5.634667	4.696508E-02			15	
Tert-Amyl Methyl Ether	0.784819	4.983532	6.785333	3.055938E-02			15	
Bromodichloromethane	0.4069805	4.139036	7.63	4.273778E-02			15	
Bromoform	0.4689245	9.237793	10.89089	2.571847E-02			SPCC (0.1)	
Bromomethane	0.1651476	22.42863	2.132	0.0169787	0.9973399		0.99	
Bromofluorobenzene	0.8962295	5.588227	11.337	2.301907E-02			15	
n-Butylbenzene	2.324169	24.06542	12.947	1.439461E-02	0.9991585		0.99	
2-Butanone	0.2685824	2.807837	5.058333	0.1648504			15	
sec-Butylbenzene	3.288358	13.75316	12.395	1.762748E-02			15	
tert-Butylbenzene	2.687883	10.52479	12.16267	3.017344E-02			15	
Carbon disulfide	0.7552518	4.790882	3.608111	9.614895E-02			15	
Carbon tetrachloride	0.3442989	5.627313	6.543667	5.477973E-02			15	
Chlorobenzene	1.934028	4.619102	10.14944	1.738742E-02			SPCC (0.3)	
Chloroethane	0.1957423	21.558	2.222778	8.305091E-02	0.9992719		0.99	
Chloroform	0.5438549	9.622319	5.605333	6.251643E-02			CCC (30)	
2-Chloroethyl vinyl ether	0.1932306	2.508571	8.021	1.624251E-02			15	
Chloromethane	0.4498213	13.88103	1.694	1.252988E-02			SPCC (0.1)	
1-Chlorohexane	0.7693327	14.04532	10.13067	2.714863E-02			15	
2-Chlorotoluene	2.381287	5.481835	11.714	1.073363E-02			15	
Chloroprene	0.5341541	6.07463	4.858666	4.362328E-02			15	
4-Chlorotoluene	2.319311	11.22753	11.781	1.442141E-02			15	
Cyclohexane	0.5367782	8.240142	6.465333	0.0396715			15	
Dibromochloromethane	0.7371572	5.234535	9.366	1.856706E-02			15	
1,2-Dibromo-3-chloropropane	0.2149517	11.96576	13.551	9.943235E-03			15	
1,2-Dibromoethane (EDB)	0.7410999	3.129674	9.585	1.861853E-02			15	

INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501124
Client: CB&I
Project: Radford AAP
Calibration: 4295001
Instrument: MS-VOA3
Matrix: Water
Calibration Dates: 10/16/14 13:21 10/16/14 16:41

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dibromomethane	0.2121975	5.421595	7.562333	4.078514E-02			15	
1,2-Dichlorobenzene	1.626855	3.547049	12.894	1.563498E-02			15	
1,3-Dichlorobenzene	1.57453	5.276544	12.481	6.821946E-03			15	
trans-1,4-Dichloro-2-butene	0.3559824	10.62197	11.31675	2.728398E-02			15	
cis-1,4-Dichloro-2-butene	0.3370338	9.653413	10.996	1.705064E-02			15	
1,4-Dichlorobenzene	1.615513	4.088323	12.578	6.094005E-03			15	
Dichlorodifluoromethane	0.2858001	7.903594	1.536	1.422478E-02			15	
1,1-Dichloroethane	0.5928847	3.647674	4.586667	7.123491E-02			SPCC (0.1)	
1,2-Dichloroethane	0.5131149	3.855696	6.414333	3.448089E-02			15	
1,1-Dichloroethene	0.2400143	3.404467	3.148667	6.754065E-02			CCC (30)	
cis-1,2-Dichloroethene	0.3033766	7.402522	5.335333	8.089337E-02			15	
trans-1,2-Dichloroethene	0.2716259	7.419108	4.189889	9.867481E-02			15	
1,2-Dichloroethene (total)	0.2875012	6.393259	5.335333	8.089337E-02			15	
1,2-Dichloropropane	0.3537372	6.497223	7.443	5.521585E-03			CCC (30)	
1,3-Dichloropropane	1.233723	2.320555	9.11	1.727931E-02			15	
2,2-Dichloropropane	0.3906624	6.758274	5.444	5.378247E-02			15	
1,1-Dichloropropene	0.3630681	3.54232	6.420333	2.910382E-02			15	
cis-1,3-Dichloropropene	0.4212099	4.376209	8.234	3.362673E-03			15	
trans-1,3-Dichloropropene	1.026035	8.000217	8.738334	1.876383E-02			15	
Diisopropyl Ether	1.384214	1.393797	4.955667	0.0433303			15	
1,4-Dioxane	4.746238E-03	6.996927	7.613	7.820996E-02			15	
Ethylbenzene	3.017116	8.210276	10.30311	1.804837E-02			CCC (30)	
Ethyl tert-Butyl Ether	1.039815	2.04506	5.453333	6.757102E-02			15	
Ethyl Methacrylate	0.9563134	9.275261	8.940666	1.832308E-02			15	
Hexachlorobutadiene	0.4813043	12.9156	14.90867	6.122088E-03			15	
Hexane	0.2858866	12.71768	4.784333	3.886878E-02			15	
2-Hexanone	0.8653243	7.182226	9.055778	1.480979E-02			15	
Iodomethane	0.2288352	30.28926	3.310889	0.1996837	0.9994647		0.99	
Isobutyl alcohol	1.274566E-02	8.856721	5.697	2.091796E-02			15	
Isopropylbenzene	2.71101	13.77066	11.22167	1.856766E-02			15	
p-Isopropyltoluene	2.820542	14.79018	12.541	1.354061E-02			15	
Methacrylonitrile	0.3287022	5.21796	5.242334	4.943111E-02			15	

INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501124
Client: CB&I
Project: Radford AAP
Calibration: 4295001
Instrument: MS-VOA3
Matrix: Water
Calibration Dates: 10/16/14 13:21 10/16/14 16:41

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Methylene chloride	0.3386559	23.90645	3.5345	9.131321E-02	0.9996799		0.99	
Methyl Acetate	0.4413845	7.707813	3.405333	7.781263E-02			15	
Methylcyclohexane	0.4018316	8.867748	7.766666	2.548838E-02			15	
Naphthalene	3.053202	24.20075	14.774	1.856488E-02	0.9952326		0.99	
Methyl Methacrylate	0.4249425	8.600991	7.597778	6.049716E-02			15	
4-Methyl-2-pentanone	0.507409	3.794182	8.161667	0.0327926			15	
Methyl t-Butyl Ether	0.8552438	3.199477	4.17	7.177078E-02			15	
n-Propylbenzene	3.59591	11.79873	11.635	5.35925E-03			15	
Propionitrile	7.324633E-02	3.122504	4.776	9.673545E-02			15	
Styrene	1.83953	14.45371	10.78967	1.930714E-02			15	
1,1,2,2-Tetrachloroethane	1.046327	6.511588	11.15867	1.695073E-02			SPCC (0.3)	
1,1,1,2-Tetrachloroethane	0.6762027	4.699455	10.199	2.814642E-02			15	
tert-Butyl alcohol	4.173232E-02	7.90852	3.234444	8.999192E-02			15	
Tetrachloroethene	0.68929	7.134735	9.469	1.422247E-02			15	
Toluene	1.739961	2.023687	8.717	3.347123E-02			CCC (30)	
1,2,3-Trichlorobenzene	1.086527	18.59103	15.06067	2.229084E-02	0.9910848		0.99	
1,2,4-Trichlorobenzene	0.9878129	23.55189	14.62733	0.0158537	0.9921662		0.99	
1,1,2-Trichloroethane	0.6225002	5.4829	8.891667	3.151169E-02			15	
1,1,1-Trichloroethane	0.4414717	3.814041	6.19	4.971849E-02			15	
Tetrahydrofuran	4.882487E-02	13.66026	5.82275	7.809364E-02			15	
Trichloroethene	0.2957519	5.97079	7.387	3.696599E-02			15	
Trichlorofluoromethane	0.3995065	5.8825	2.580222	0.1246556			15	
1,2,3-Trichloropropane	0.3370457	8.213814	11.284	2.732802E-02			15	
1,3,5-Trimethylbenzene	2.679387	13.94858	11.81833	1.538039E-02			15	
1,2,4-Trimethylbenzene	2.799424	13.97812	12.19444	1.810489E-02			15	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.2539107	5.736913	3.188333	9.773019E-02			15	
Vinyl chloride	0.257254	13.19946	1.798	1.861352E-02			CCC (30)	
m,p-Xylene	2.38788	7.076305	10.418	6.389687E-03			15	
o-Xylene	2.571042	10.08422	10.81344	1.641062E-02			15	
Vinyl acetate	0.879943	6.07361	4.657	2.075979E-02			15	
Xylenes (total)	2.448934	8.060256	10.81344	1.641062E-02			15	
Dibromofluoromethane	0.2754751	3.246555	5.788445	8.630386E-04			15	

INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501124
Client: CB&I
Project: Radford AAP
Calibration: 4295001
Instrument: MS-VOA3
Matrix: Water
Calibration Dates: 10/16/14 13:21 10/16/14 16:41

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
1,2-Dichloroethane-d4	6.676421E-02	4.699557	6.318	4.988224E-03			15	
Toluene-d8	2.393762	1.829584	8.637889	3.525258E-02			15	
tert-Amyl alcohol	3.035613E-02	10.0578	5.993667	4.800608E-02			15	
tert-Amyl ethyl ether	0.7915378	6.400902	7.724333	3.367899E-02			15	
1,3,5-Trichlorobenzene	1.09861	16.14547	14.068	1.577873E-02	0.9967573		0.99	
Diethyl ether	0.2740784	6.744353	2.869556	0.105763			15	

Per current DoD QSM requirements, effective 03/17/2014, Empirical has updated the linear calibration coefficient requirements to reflect a limit of 0.990 for "r2" rather than the previously reported limit of 0.995 for "r". The change in assessment criteria is consistent with regulatory requirements.

INITIAL CALIBRATION CHECK

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501124
Client:	CB&I	Project:	Radford AAP
Instrument ID:	MS-VOA3	Calibration:	4295001
Lab File ID:	1016ICV2.D	Calibration Date:	10/16/14 13:21
Sequence:	4J29412	Injection Date:	10/16/14
Lab Sample ID:	4J29412-ICV2	Injection Time:	17:56

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Acetone	A	200.0	168.8	0.1760152	0.1485478		-15.6	20
Benzene	A	100.0	97.80	1.131117	1.106213		-2.2	20
Bromodichloromethane	A	100.0	94.10	0.4069805	0.3829828		-5.9	20
Bromoform	A	100.0	107.5	0.4689245	0.5039055	0.1	7.5	20
Bromomethane	A	100.0	104.1	0.1651476	0.1545396		4.1	20
2-Butanone	A	200.0	191.8	0.2685824	0.2576075		-4.1	20
Carbon disulfide	A	100.0	91.88	0.7552518	0.6939144		-8.1	20
Carbon tetrachloride	A	100.0	102.1	0.3442989	0.3515265		2.1	20
Chlorobenzene	A	100.0	99.51	1.934028	1.924638	0.3	-0.5	20
Chloroethane	A	100.0	86.05	0.1957423	0.1463484		-13.9	20
Chloroform	A	100.0	93.10	0.5438549	0.5063504		-6.9	20
Chloromethane	A	100.0	94.57	0.4498213	0.4253874	0.1	-5.4	20
Dibromochloromethane	A	100.0	103.2	0.7371572	0.7607102		3.2	20
1,1-Dichloroethane	A	100.0	95.57	0.5928847	0.5666157	0.1	-4.4	20
1,2-Dichloroethane	A	100.0	95.46	0.5131149	0.4898065		-4.5	20
1,1-Dichloroethene	A	100.0	88.45	0.2400143	0.2122883		-11.6	20
cis-1,2-Dichloroethene	A	100.0	96.07	0.3033766	0.2914645		-3.9	20
trans-1,2-Dichloroethene	A	100.0	90.75	0.2716259	0.2465127		-9.2	20
1,2-Dichloropropane	A	100.0	96.27	0.3537372	0.3405408		-3.7	20
cis-1,3-Dichloropropene	A	100.0	109.6	0.4212099	0.4616137		9.6	20
trans-1,3-Dichloropropene	A	100.0	98.22	1.026035	1.007738		-1.8	20
Ethylbenzene	A	100.0	107.6	3.017116	3.247643		7.6	20
2-Hexanone	A	200.0	207.7	0.8653243	0.8988259		3.9	20
Methylene chloride	A	100.0	99.52	0.3386559	0.2808719		-0.5	20
4-Methyl-2-pentanone	A	200.0	205.5	0.507409	0.5213606		2.7	20
Styrene	A	100.0	117.9	1.83953	2.169414		17.9	20
1,1,2,2-Tetrachloroethane	A	100.0	94.11	1.046327	0.9846777	0.3	-5.9	20
Tetrachloroethene	A	100.0	101.2	0.68929	0.6972945		1.2	20
Toluene	A	100.0	98.82	1.739961	1.719397		-1.2	20

INITIAL CALIBRATION CHECK

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501124
Client:	CB&I	Project:	Radford AAP
Instrument ID:	MS-VOA3	Calibration:	4295001
Lab File ID:	1016ICV2.D	Calibration Date:	10/16/14 13:21
Sequence:	4J29412	Injection Date:	10/16/14
Lab Sample ID:	4J29412-ICV2	Injection Time:	17:56

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
1,1,2-Trichloroethane	A	100.0	96.61	0.6225002	0.6014224		-3.4	20
1,1,1-Trichloroethane	A	100.0	96.49	0.4414717	0.4259819		-3.5	20
Trichloroethene	A	100.0	96.75	0.2957519	0.2861375		-3.3	20
Vinyl chloride	A	100.0	87.47	0.257254	0.2250098		-12.5	20
m,p-Xylene	A	200.0	208.5	2.38788	2.489828		4.3	20
o-Xylene	A	100.0	105.0	2.571042	2.700375		5.0	20
Bromofluorobenzene	A	30.00	31.05	0.8962295	0.9275562		3.5	20
Dibromofluoromethane	A	30.00	28.84	0.2754751	0.2648002		-3.9	20
1,2-Dichloroethane-d4	A	30.00	28.91	6.676421E-02	6.432998E-02		-3.6	20
Toluene-d8	A	30.00	30.07	2.393762	2.399575		0.2	20

CONTINUING CALIBRATION CHECK

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501124
Client:	CB&I	Project:	Radford AAP
Instrument ID:	MS-VOA3	Calibration:	4295001
Lab File ID:	0206CCV1.D	Calibration Date:	10/16/14 13:21
Sequence:	5B04025	Injection Date:	02/06/15
Lab Sample ID:	5B04025-CCV1	Injection Time:	07:50

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Acetone	A	200.0	215.8	0.1760152	0.1899509		7.9	20	
Benzene	A	100.0	97.88	1.131117	1.107147		-2.1	20	
Bromodichloromethane	A	100.0	97.75	0.4069805	0.3978279		-2.2	20	
Bromoform	A	100.0	112.3	0.4689245	0.5265372	0.1	12.3	20	
Bromomethane	A	100.0	107.2	0.1651476	0.1591984		7.2	20	
2-Butanone	A	200.0	184.7	0.2685824	0.24802		-7.7	20	
Carbon disulfide	A	100.0	98.24	0.7552518	0.7419299		-1.8	20	
Carbon tetrachloride	A	100.0	120.7	0.3442989	0.4155906		20.7	20	*
Chlorobenzene	A	100.0	87.60	1.934028	1.694153	0.3	-12.4	20	
Chloroethane	A	100.0	110.2	0.1957423	0.1874165		10.2	20	
Chloroform	A	100.0	96.72	0.5438549	0.5259997		-3.3	20	
Chloromethane	A	100.0	97.43	0.4498213	0.438263	0.1	-2.6	20	
Dibromochloromethane	A	100.0	95.04	0.7371572	0.7006291		-5.0	20	
1,1-Dichloroethane	A	100.0	102.2	0.5928847	0.605656	0.1	2.2	20	
1,2-Dichloroethane	A	100.0	102.0	0.5131149	0.5235211		2.0	20	
1,1-Dichloroethene	A	100.0	96.93	0.2400143	0.2326385		-3.1	20	
cis-1,2-Dichloroethene	A	100.0	97.11	0.3033766	0.2946002		-2.9	20	
trans-1,2-Dichloroethene	A	100.0	89.90	0.2716259	0.2441864		-10.1	20	
1,2-Dichloropropane	A	100.0	96.54	0.3537372	0.3415099		-3.5	20	
cis-1,3-Dichloropropene	A	100.0	118.0	0.4212099	0.4968352		18.0	20	
trans-1,3-Dichloropropene	A	100.0	107.2	1.026035	1.099952		7.2	20	
Ethylbenzene	A	100.0	100.5	3.017116	3.033591		0.5	20	
2-Hexanone	A	200.0	174.8	0.8653243	0.7565021		-12.6	20	
Methylene chloride	A	100.0	96.67	0.3386559	0.272829		-3.3	20	
4-Methyl-2-pentanone	A	200.0	175.8	0.507409	0.4459837		-12.1	20	
Styrene	A	100.0	107.6	1.83953	1.97859		7.6	20	
1,1,2,2-Tetrachloroethane	A	100.0	91.72	1.046327	0.9597041	0.3	-8.3	20	
Tetrachloroethene	A	100.0	96.55	0.68929	0.6655332		-3.4	20	
Toluene	A	100.0	89.27	1.739961	1.553233		-10.7	20	

CONTINUING CALIBRATION CHECK

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501124
Client:	CB&I	Project:	Radford AAP
Instrument ID:	MS-VOA3	Calibration:	4295001
Lab File ID:	0206CCV1.D	Calibration Date:	10/16/14 13:21
Sequence:	5B04025	Injection Date:	02/06/15
Lab Sample ID:	5B04025-CCV1	Injection Time:	07:50

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
1,1,2-Trichloroethane	A	100.0	80.91	0.6225002	0.5036943		-19.1	20
1,1,1-Trichloroethane	A	100.0	108.3	0.4414717	0.4782334		8.3	20
Trichloroethene	A	100.0	95.66	0.2957519	0.2829168		-4.3	20
Vinyl chloride	A	100.0	112.3	0.257254	0.2889959		12.3	20
m,p-Xylene	A	200.0	197.7	2.38788	2.360247		-1.2	20
o-Xylene	A	100.0	100.1	2.571042	2.572761		0.07	20
Bromofluorobenzene	A	30.00	29.23	0.8962295	0.8732942		-2.6	20
Dibromofluoromethane	A	30.00	29.33	0.2754751	0.2693259		-2.2	20
1,2-Dichloroethane-d4	A	30.00	28.81	6.676421E-02	6.412698E-02		-4.0	20
Toluene-d8	A	30.00	28.10	2.393762	2.241848		-6.3	20

HOLDING TIME SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC SDG: 1501124

Client: CB&I Project: Radford AAP

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
49MW03	01/28/15 08:55	01/29/15 09:45	02/06/15 14:09	N/A	14.00	02/06/15 14:09	9.26	14.00	
Trip Blank 14-0840	01/28/15 08:00	01/29/15 09:45	02/06/15 10:48	N/A	14.00	02/06/15 10:48	9.16	14.00	
48MW2	01/28/15 12:00	01/29/15 09:45	02/06/15 14:34	N/A	14.00	02/06/15 14:34	9.15	14.00	
49MW01	01/28/15 13:20	01/29/15 09:45	02/06/15 14:59	N/A	14.00	02/06/15 14:59	9.11	14.00	
48MW1	01/28/15 14:30	01/29/15 09:45	02/06/15 15:24	N/A	14.00	02/06/15 15:24	9.08	14.00	

Data for SW8260B
Supporting Raw Data / Logs

Sequence Name: C:\msdchem\1\sequence\101614V3.s
Comment: 8260B/C/624
Operator:
Data Path: C:\MSDCHEM\1\DATA\101614V3\
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:
Data Analysis Post-Seq Cmd:

M10/16/14

1650

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line			Sample Name/Misc Info		
1)	Sample	100	BLK1	VW3SUR	BLANK
2)	Sample	100	BLK2	VW3SUR	BLANK
3)	Sample	100	BLK3	VW3SUR	BLANK
4)	Sample	1	1016TU1	VW3SUR	SEQ-TUN1 12:01, 10/16
5)	Sample	2	BLANK	VW3SUR	BLANK
6)	Sample	3	1016CALA	VW3SUR	SEQ-CALA
7)	Sample	4	1016CAL1	VW3SUR	SEQ-CAL1
8)	Sample	5	1016CAL2	VW3SUR	SEQ-CAL2
9)	Sample	6	1016CAL3	VW3SUR	SEQ-CAL3
10)	Sample	7	1016CAL4	VW3SUR	SEQ-CAL4
11)	Sample	8	1016CAL5	VW3SUR	SEQ-CAL5
12)	Sample	9	1016CAL6	VW3SUR	SEQ-CAL6
13)	Sample	10	1016CAL7	VW3SUR	SEQ-CAL7
14)	Sample	11	1016CAL8	VW3SUR	SEQ-CAL8
15)	Sample	12	1016CAL9	VW3SUR	SEQ-CAL9
16)	Sample	13	BLANK1	VW3SUR	BLANK
17)	Sample	14	1016ICV1	VW3SUR	SEQ-ICV1
18)	Sample	15	1016ICV2	VW3SUR	SEQ-ICV2
19)	Sample	16	1016ICV3	VW3SUR	SEQ-ICV3
20)	Sample	17	BLANK2	VW3SUR	BLANK
21)	Sample	18	BLANK3	VW3SUR	BLANK
22)	Sample	19	SURLODQ1	VW3SUR	SURLODQ1
23)	Sample	20	SURLODQ2	VW3SUR	SURLODQ2

WATER CALC

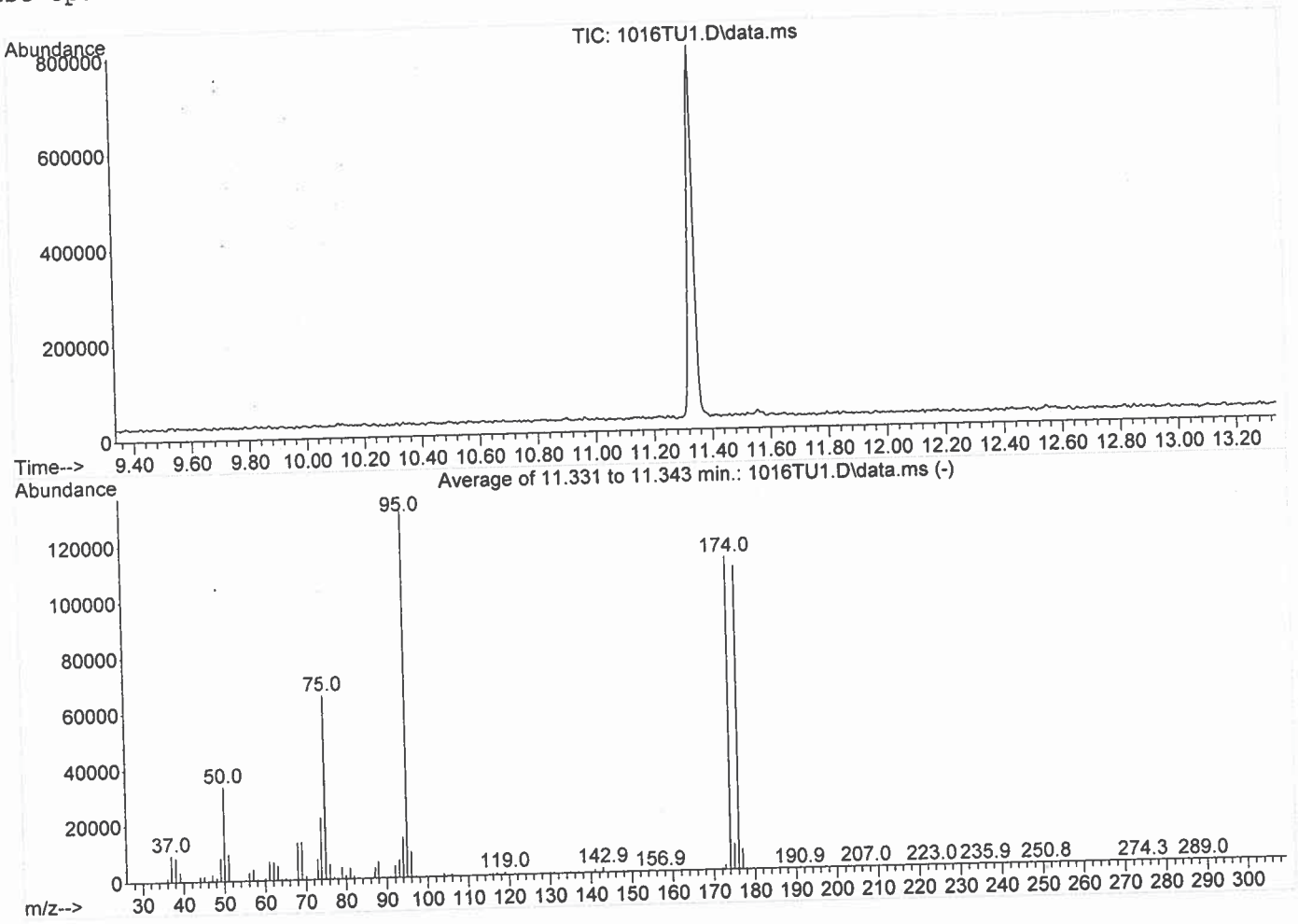
8:00, 10/16

Last Modified: Thu Oct 16 10:05:51 2014

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016TU1.D
Acq On : 16 Oct 2014 12:01 pm
Operator :
Sample : SEQ-TUN1
Misc : 1
ALS Vial : 1 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\METHODS\101614W3.M
Title : 8260B/C
Last Update : Fri Oct 17 12:22:57 2014



AutoFind: Scans 1619, 1620, 1621; Background Corrected with Scan 1611

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	25.7	33682	PASS
75	95	30	60	50.1	65664	PASS
95	95	100	100	100.0	130938	PASS
96	95	5	9	7.0	9217	PASS
173	174	0.00	2	1.5	1643	PASS
174	95	50	100	85.5	111973	PASS
175	174	5	9	8.2	9203	PASS
176	174	95	101	97.0	108635	PASS
177	176	5	9	6.6	7140	PASS

10/22/14

erage of 11.331 to 11.343 min.: 1016TU1.D\data.ms
Q-TUN1
dified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	1432	46.20	63	54.30	102	63.05	5141
37.00	9342	47.00	2471	55.15	528	63.80	279
38.05	8443	48.10	1142	56.00	2898	64.05	392
39.10	3360	49.05	8194	57.05	4084	64.25	118
40.00	116	50.05	33682	58.05	483	65.00	703
41.30	54	51.05	9595	59.10	46	66.00	185
41.95	210	52.00	474	59.80	274	66.95	282
42.30	72	52.20	12	59.90	336	68.00	13353
43.20	96	52.40	38	60.05	918	69.00	13577
44.00	1674	53.20	63	61.00	6695	70.05	1309
45.00	1788	54.00	236	62.05	6459	71.10	34

erage of 11.331 to 11.343 min.: 1016TU1.D\data.ms
EQ-TUN1
odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
71.30	86	80.95	3865	89.95	46	99.80	18
71.80	49	81.90	1135	90.60	335	100.60	26
72.05	439	82.95	194	90.95	346	102.00	25
72.95	7298	83.70	69	92.05	4270	103.00	35
74.00	22063	84.30	28	93.05	6331	103.50	143
75.00	65664	84.60	44	94.00	14445	103.95	1038
76.05	5339	85.80	340	94.95	130938	104.90	274
77.05	770	86.20	58	96.00	9217	105.90	816
78.00	455	86.90	1977	97.10	413	106.80	126
78.95	4203	87.10	3789	97.70	21	107.20	54
79.95	1312	87.95	5833	98.00	59	107.90	106

verage of 11.331 to 11.343 min.: 1016TU1.D\data.ms
EQ-TUN1
odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
109.40	20	114.75	102	123.80	81	131.30	45
109.90	97	115.15	212	124.00	23	132.00	38
110.10	23	115.95	584	124.40	32	133.40	23
110.70	98	116.95	831	125.00	107	133.60	22
111.00	112	117.85	292	125.80	59	133.80	21
111.80	109	118.20	117	126.60	25	134.10	29
112.05	184	118.95	976	127.70	138	134.90	481
112.60	24	119.75	54	127.95	204	135.20	113
112.95	124	121.10	35	129.05	255	135.60	35
113.90	55	122.20	87	130.00	445	135.90	124
114.10	28	122.95	119	130.90	172	136.60	78

verage of 11.331 to 11.343 min.: 1016TU1.D\data.ms
EQ-TUN1
odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
136.90	275	145.15	157	153.10	71	160.80	64
137.20	70	145.95	271	153.80	48	160.95	47
138.90	50	147.00	73	154.20	170	161.60	20
139.80	91	147.20	112	154.90	563	162.15	57
140.10	108	147.80	386	155.50	19	164.40	38
140.90	1215	148.10	90	156.00	41	165.40	63
141.90	121	149.00	168	156.95	285	167.10	67
142.90	1757	149.75	164	157.80	48	167.70	75
143.85	137	150.80	18	158.10	65	168.10	197
144.20	55	151.90	119	158.70	137	168.30	50
144.60	23	152.75	84	159.05	37	169.10	82

Average of 11.331 to 11.343 min.: 1016TU1.D\data.ms
SEQ-TUN1
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
169.75	120	179.00	23	189.10	19	200.10	28
170.40	54	179.50	45	189.90	26	200.90	51
170.95	136	182.15	79	190.10	31	204.20	21
171.90	274	183.10	52	190.90	42	206.60	35
172.20	523	183.80	24	192.90	26	207.00	196
172.80	1643	184.60	48	193.30	23	207.50	58

174.00	111973	184.90	90	194.80	45	207.95	94
175.00	9203	185.40	30	197.20	40	208.60	17
176.00	108635	186.80	17	198.30	23	209.10	24
176.95	7140	187.30	27	198.50	19	211.20	20
177.95	281	187.95	40	199.05	41	212.50	66

verage of 11.331 to 11.343 min.: 1016TU1.D\data.ms
EQ-TUN1
odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
214.30	48	231.40	53	247.60	28	260.90	27
215.10	19	235.95	94	249.15	53	267.30	29
215.90	37	237.90	26	250.10	58	267.60	46
221.70	23	238.20	22	250.80	102	269.05	61
223.00	70	239.00	20	251.60	63	270.60	22
226.40	17	239.40	25	252.10	30	274.30	67
227.00	26	240.10	28	252.80	20	275.90	42
228.00	49	240.50	25	256.80	22	278.50	32
229.50	41	240.80	21	257.10	33	279.90	17
230.10	76	241.80	24	258.00	21	280.10	19
230.70	47	245.00	20	259.10	20	282.15	3

verage of 11.331 to 11.343 min.: 1016TU1.D\data.ms
EQ-TUN1
odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
285.10	20	297.60	21				
287.10	19	298.70	52				
287.40	18	299.30	30				
287.60	18						
288.30	18						
289.00	91						
289.60	17						
291.15	71						
294.30	63						
294.80	30						
296.80	24						

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 12:05:52 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration

10/10/14

SP 10/22/14

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	6.865	96	853003	30.00	ug/L		0.00
59) Chlorobenzene-d5	10.114	82	338758	30.00	ug/L		0.00
81) 1,4-Dichlorobenzene-d4	12.547	152	294972	30.00	ug/L	#	0.00
System Monitoring Compounds							
37) Dibromofluoromethane	5.789	111	240878	31.14	ug/L		0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 103.80%				
41) 1,2-Dichloroethane-d4	6.318	102	57209	30.45	ug/L		0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 101.50%				
60) Toluene-d8	8.642	98	804236	29.71	ug/L		0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 99.03%				
80) Bromofluorobenzene	11.337	95	276550	27.14	ug/L		0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 90.47%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.536	85	4314	0.5450	ug/L		93
3) Chloromethane	1.694	50	11144m	0.8626	ug/L		
4) Vinyl chloride	1.798	62	4718	0.6515	ug/L	#	45
5) Bromomethane	2.132	94	4531m	0.9678	ug/L		
6) Chloroethane	2.224	64	3309m	0.6139	ug/L		
7) Trichlorofluoromethane	2.583	101	6411	0.5722	ug/L		87
8) Acrolein	2.716	56	6420	3.1811	ug/L		96
9) Acetone	2.789	43	8052	1.6089	ug/L		99
10) Acetonitrile	2.856	41	12958	5.8403	ug/L		88
11) Ethyl Ether	2.875	59	4520	0.5690	ug/L		88
12) 1,1-Dichloroethene	3.148	96	3475	0.4949	ug/L	#	90
13) Trichlorotrifluoroethane	3.191	101	4064	0.5739	ug/L		98
14) Iodomethane	3.300	142	2510	0.3724	ug/L		93
15) t-Butyl Alcohol	3.240	59	3427	2.7888	ug/L		98
16) Methyl Acetate	3.410	43	6945m	0.5285	ug/L		
17) Acrylonitrile	3.434	53	15143	2.7032	ug/L		90
18) Allyl chloride	3.495	76	2225	0.5647	ug/L		82
19) Methylene chloride	3.532	84	10767	1.1182	ug/L		87
20) Carbon disulfide	3.611	76	11196	0.5232	ug/L		97
21) trans-1,2-dichloroethene	4.183	96	4060	0.5328	ug/L		96
22) MTBE	4.176	73	11774	0.4719	ug/L	#	77
23) 1,1-Dichloroethane	4.584	63	8602	0.5082	ug/L		98
24) Vinyl acetate	4.657	43	22275	0.8584	ug/L	#	96
25) Propionitrile	4.785	54	9839	4.6458	ug/L	#	89
26) Hexane	4.785	57	3987	0.4901	ug/L	#	86
27) Chloroprene	4.858	53	7133	0.4610	ug/L	#	73
28) Di-isopropyl ether	4.961	45	19538	0.4922	ug/L		99
29) 2-Butanone	5.077	43	7947	1.0142	ug/L		99
30) Methacrylonitrile	5.241	41	46920	4.9756	ug/L		98
31) cis-1,2-Dichloroethene	5.338	96	5080	0.6039	ug/L		89
32) 2,2-Dichloropropane	5.448	77	6470	0.5666	ug/L		99
33) ETBE	5.448	59	14715	0.4891	ug/L	#	89
34) Chloroform	5.612	83	8445	0.5405	ug/L		89
35) Bromochloromethane	5.636	128	2756m	0.5987	ug/L		
36) Isobutyl alcohol	5.710	42	2285	6.3051	ug/L	#	22
38) Tetrahydrofuran	5.819	72	1241m	0.8939	ug/L		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 12:05:52 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39) tert-Amyl alcohol	5.995	59	1753m	1.9234 ug/L	
40) 1,1,1-Trichloroethane	6.190	97	6439	0.5169 ug/L	98
42) 1,2-Dichloroethane	6.409	62	7276	0.4979 ug/L #	97
43) 1,1-Dichloropropene	6.421	75	4957	0.4709 ug/L #	89
44) Cyclohexane	6.470	56	7341	0.4592 ug/L	94
45) Carbon tetrachloride	6.549	117	4622	0.4591 ug/L	96
46) Benzene	6.579	78	16368	0.5047 ug/L	94
47) tert- Amyl Methyl Ether	6.786	73	10271	0.4448 ug/L #	90
48) Trichloroethene	7.382	95	4224	0.4978 ug/L	91
49) 1,2-Dichloropropane	7.443	63	5729	0.5696 ug/L #	85
50) Dibromomethane	7.559	93	3078	0.5078 ug/L	94
51) Methyl methacrylate	7.608	41	5178m	0.4119 ug/L	
52) 1,4-Dioxane	7.620	88	1505	11.1039 ug/L	96
53) Bromodichloromethane	7.626	83	6075	0.5184 ug/L	89
54) tert- Amyl Ethyl Ether	7.729	59	10193	0.4406 ug/L #	88
55) Methyl cyclohexane	7.766	83	5414	0.4556 ug/L	92
56) 2-Chloroethyl vinyl ether	8.021	63	5585	0.9466 ug/L #	86
57) 4-Methyl-2-pentanone	8.167	43	15000	1.0263 ug/L #	85
58) cis-1,3-Dichloropropene	8.234	75	5948	0.4888 ug/L #	88
61) trans-1,3-Dichloropropene	8.739	75	5187	0.4295 ug/L #	77
62) Toluene	8.721	92	10055	0.5079 ug/L #	88
63) 1,1,2-Trichloroethane	8.897	83	3790	0.5441 ug/L	96
64) Ethyl methacrylate	8.940	69	4849	0.4313 ug/L	95
65) 2-Hexanone	9.055	43	10052	1.0321 ug/L #	79
66) 1,3-Dichloropropane	9.110	76	7010	0.5017 ug/L #	83
67) Dibromochloromethane	9.366	129	4090	0.4853 ug/L	97
68) Tetrachloroethene	9.469	166	3215	0.4015 ug/L #	73
69) 1,2-Dibromoethane	9.585	107	3991	0.4676 ug/L	94
70) 1-Chlorohexane	10.126	91	5191	0.6125 ug/L #	19
71) Chlorobenzene	10.144	112	9778	0.4413 ug/L	95
72) 1,1,1,2-Tetrachloroethane	10.205	131	4215	0.5493 ug/L #	54
73) Ethylbenzene	10.309	91	15216	0.4411 ug/L	98
74) m,p-Xylene	10.418	91	23652	0.8527 ug/L	91
75) Styrene	10.789	104	8325	0.3875 ug/L	87
76) o-Xylene	10.814	91	11630	0.3861 ug/L	92
77) Bromoform	10.887	173	2510	0.4672 ug/L #	81
78) Isopropylbenzene	11.227	105	11597	0.3685 ug/L	94
79) 1,2,3-Trichloropropane	11.282	110	1875	0.4879 ug/L #	1
82) cis-1,4-Dichloro-2-butene	11.002	53	1425	0.4300 ug/L	94
83) 1,1,2,2-Tetrachloroethane	11.154	83	5910	0.5738 ug/L	96
84) trans-1,4-Dichloro-2-b...	11.312	53	2476	0.7074 ug/L #	1
85) Bromobenzene	11.489	156	4149	0.4674 ug/L	93
86) n-Propylbenzene	11.635	91	14270	0.3939 ug/L	100
87) 2-Chlorotoluene	11.714	91	10550	0.4389 ug/L	99
88) 4-Chlorotoluene	11.781	91	8845m	0.3707 ug/L	
89) 1,3,5-Trimethylbenzene	11.817	105	10412	0.3844 ug/L	94
90) tert-Butylbenzene	12.164	119	10641	0.3889 ug/L #	87
91) 1,2,4-Trimethylbenzene	12.195	105	11439	0.4000 ug/L	98
92) sec-Butylbenzene	12.395	105	13394	0.4090 ug/L	98
93) 1,3-Dichlorobenzene	12.481	146	7200	0.4656 ug/L	84
94) 1,4-Dichlorobenzene	12.578	146	7781m	0.5026 ug/L	
95) p-Isopropyltoluene	12.541	119	11998m	0.4268 ug/L	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 12:05:52 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration

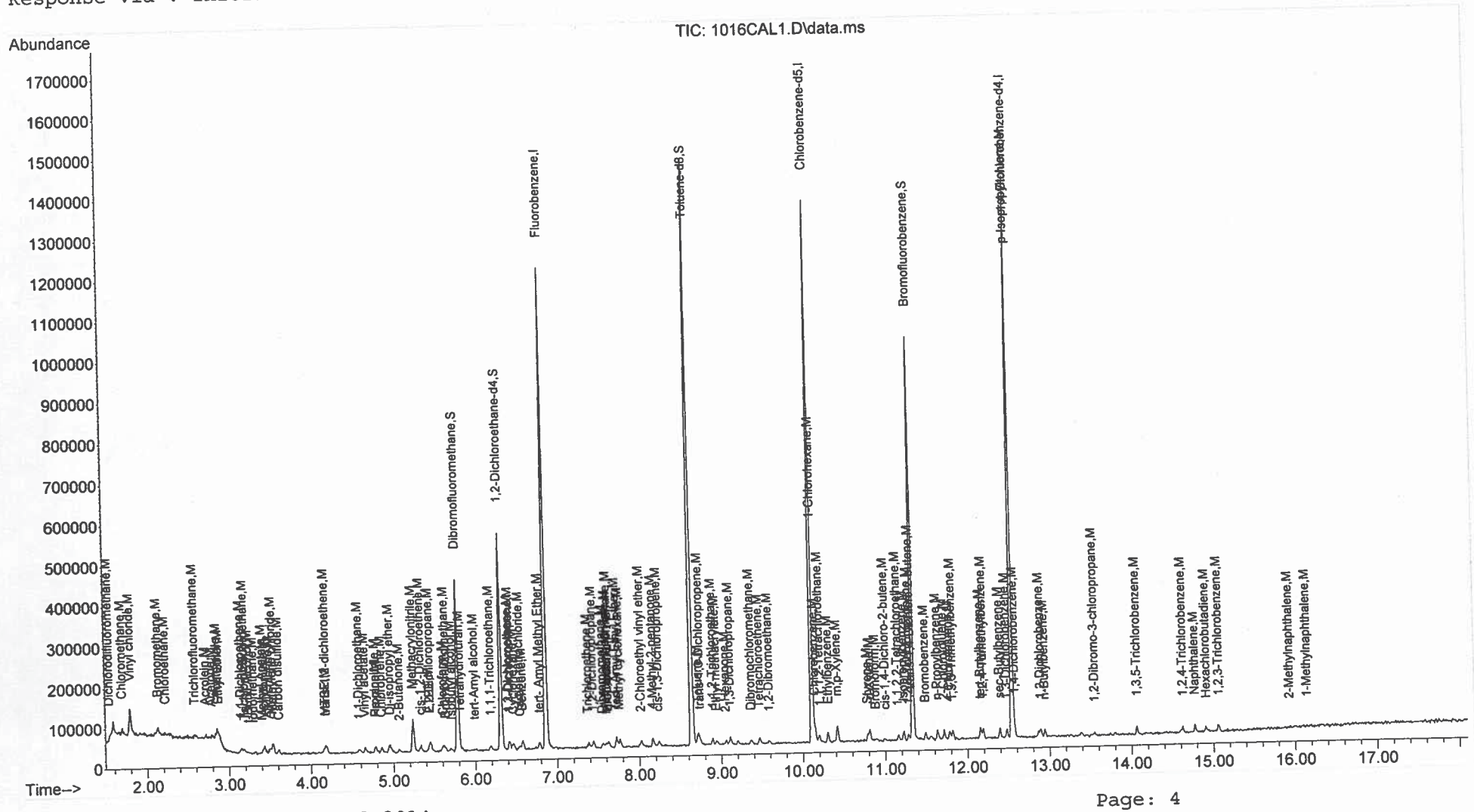
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
96) 1,2-Dichlorobenzene	12.894	146	7782	0.4884	ug/L		93
97) n-Butylbenzene	12.943	91	8227	0.3468	ug/L		92
98) 1,2-Dibromo-3-chloropr...	13.551	157	1184m	0.5533	ug/L		
99) 1,3,5-Trichlorobenzene	14.068	180	5334	0.4927	ug/L	#	79
100) 1,2,4-Trichlorobenzene	14.628	180	3742	0.3813	ug/L		100
101) Naphthalene	14.774	128	11357	0.3712	ug/L		100
102) Hexachlorobutadiene	14.914	225	2352	0.4974	ug/L		93
103) 1,2,3-Trichlorobenzene	15.066	180	4857	0.4608	ug/L		90
104) 2-Methylnaphthalene	15.930	142	1140	0.0655	ug/L		86
105) 1-Methylnaphthalene	16.143	142	723	0.0422	ug/L		91

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

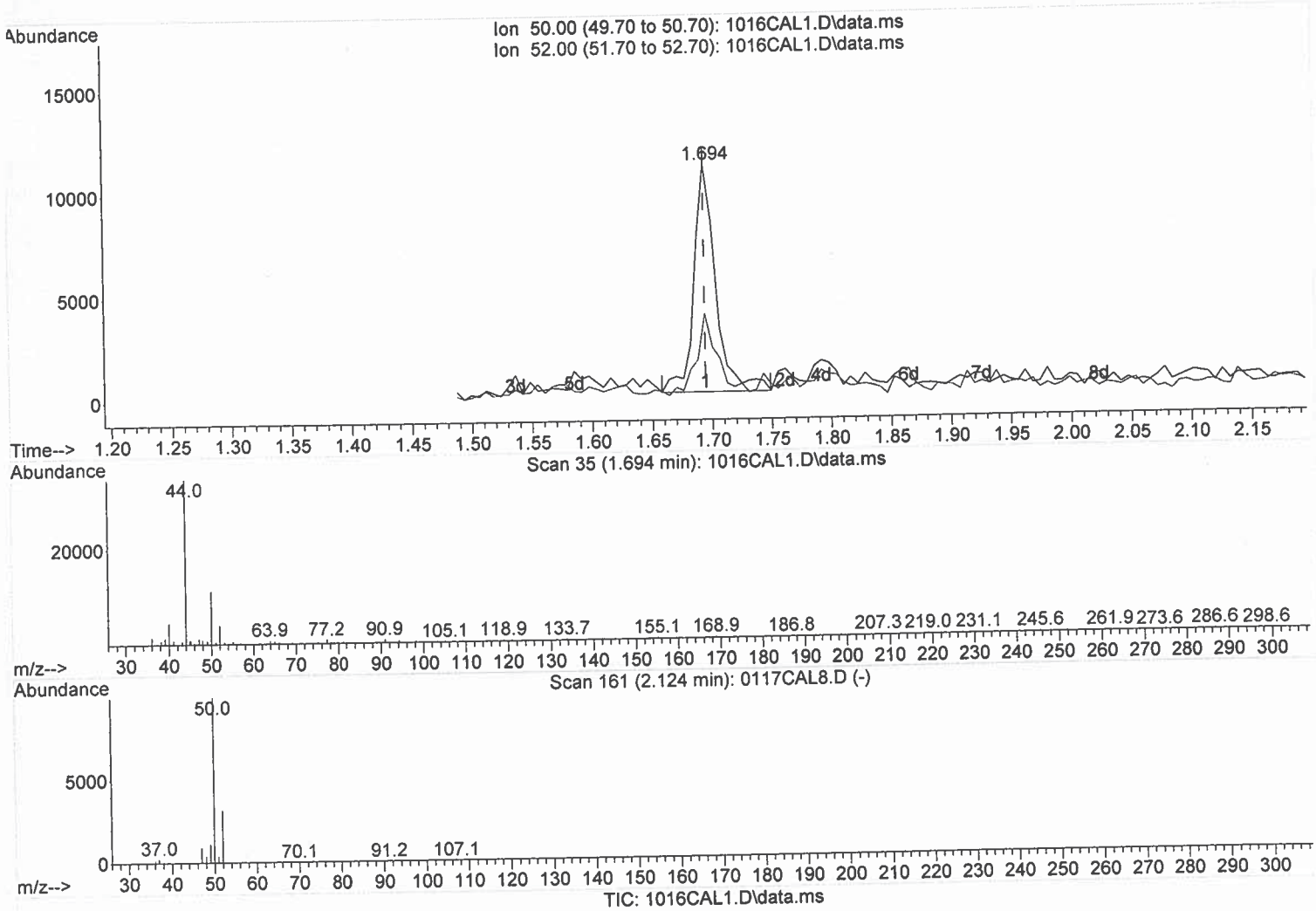
Quant Time: Oct 17 12:05:52 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:47:13 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



(3) Chloromethane (M)

1.694min (+0.000) 1.08 ug/L

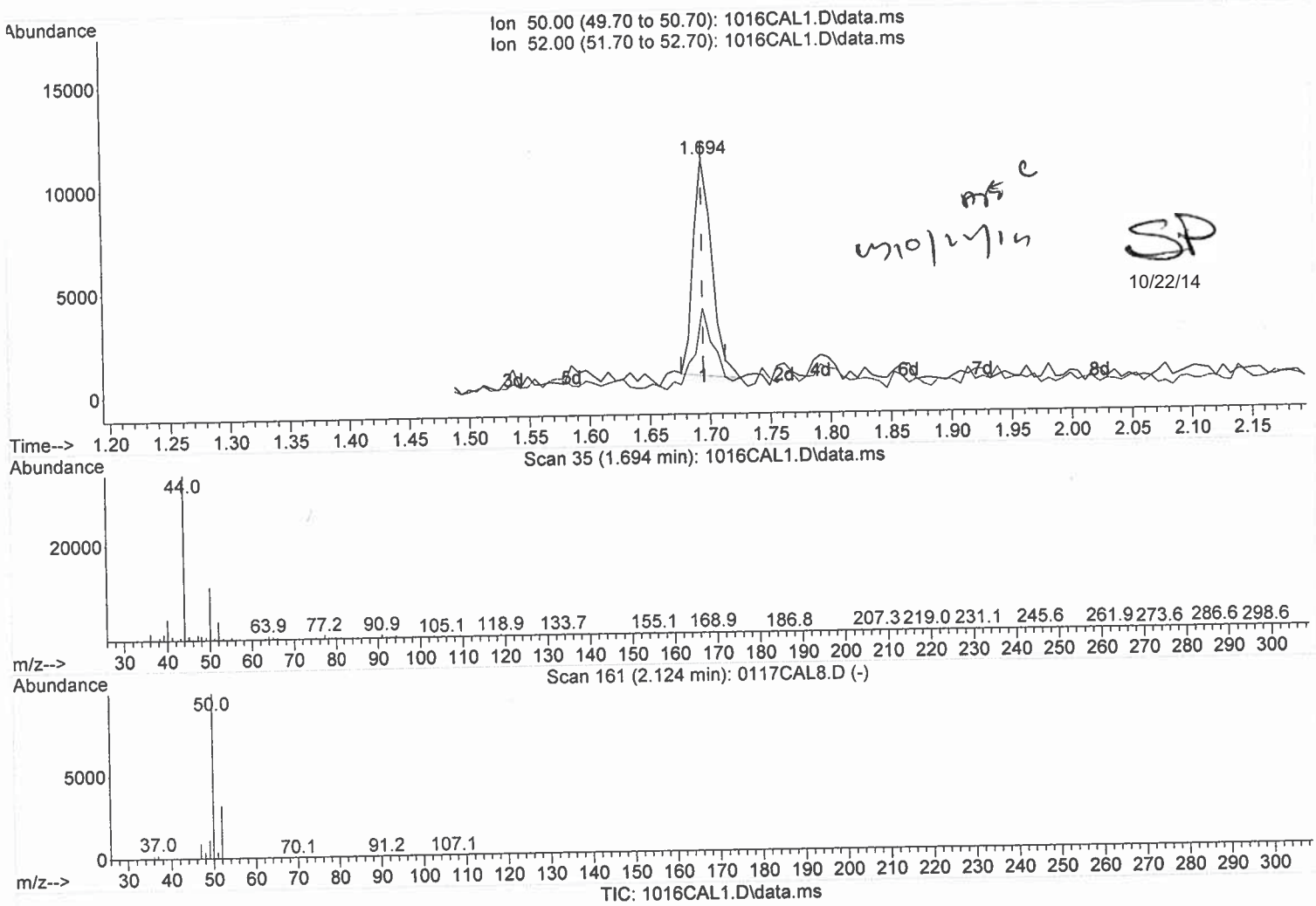
response 13932

Ion	Exp%	Act%
50.00	100	100
52.00	31.70	34.17
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:57:31 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



(3) Chloromethane (M)

1.694min (+0.000) 0.86 ug/L m

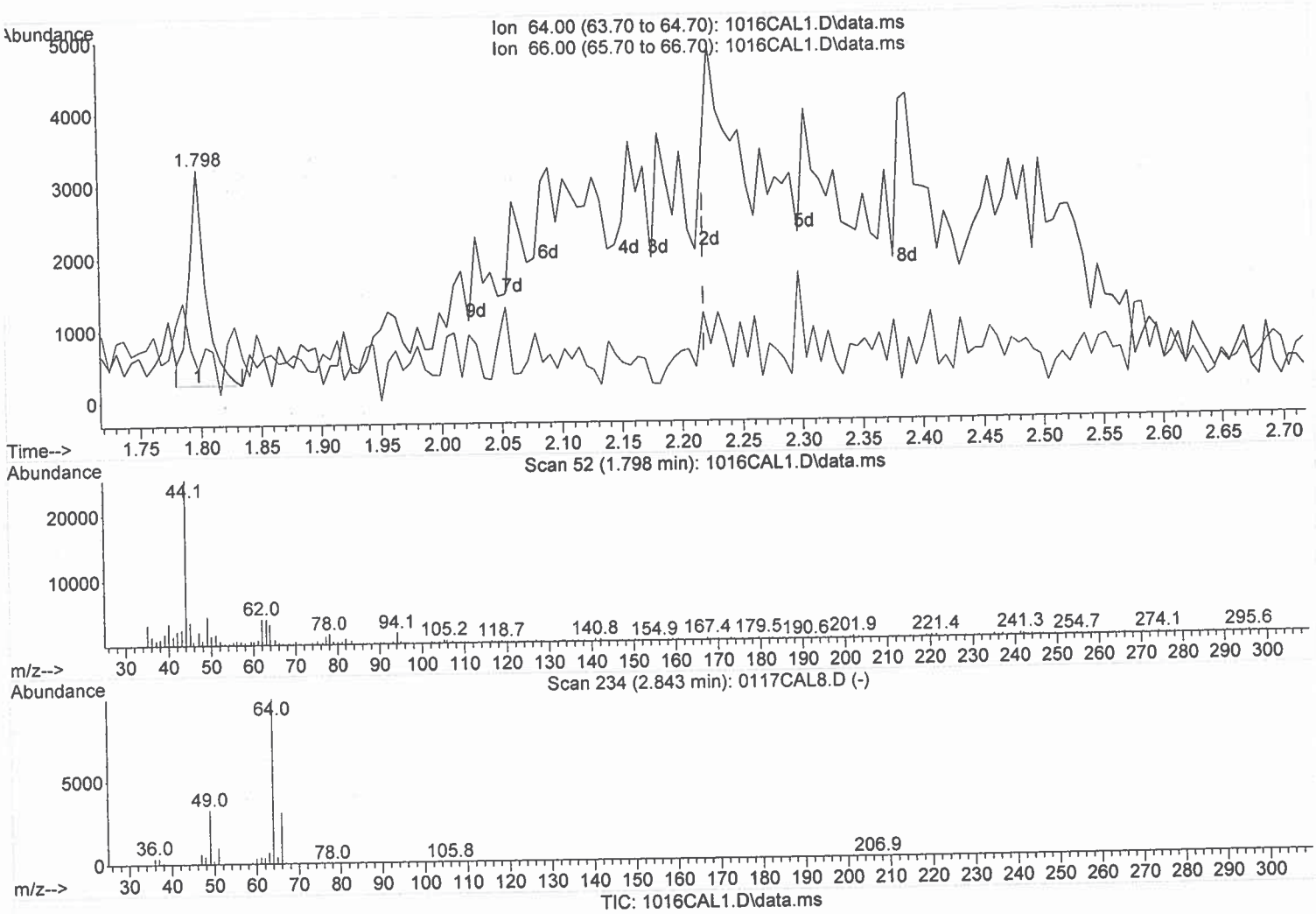
response 11144

Ion	Exp%	Act%
50.00	100	100
52.00	31.70	42.71#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:40:03 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



(6) Chloroethane (M)

1.798min (-0.420) 0.52 ug/L

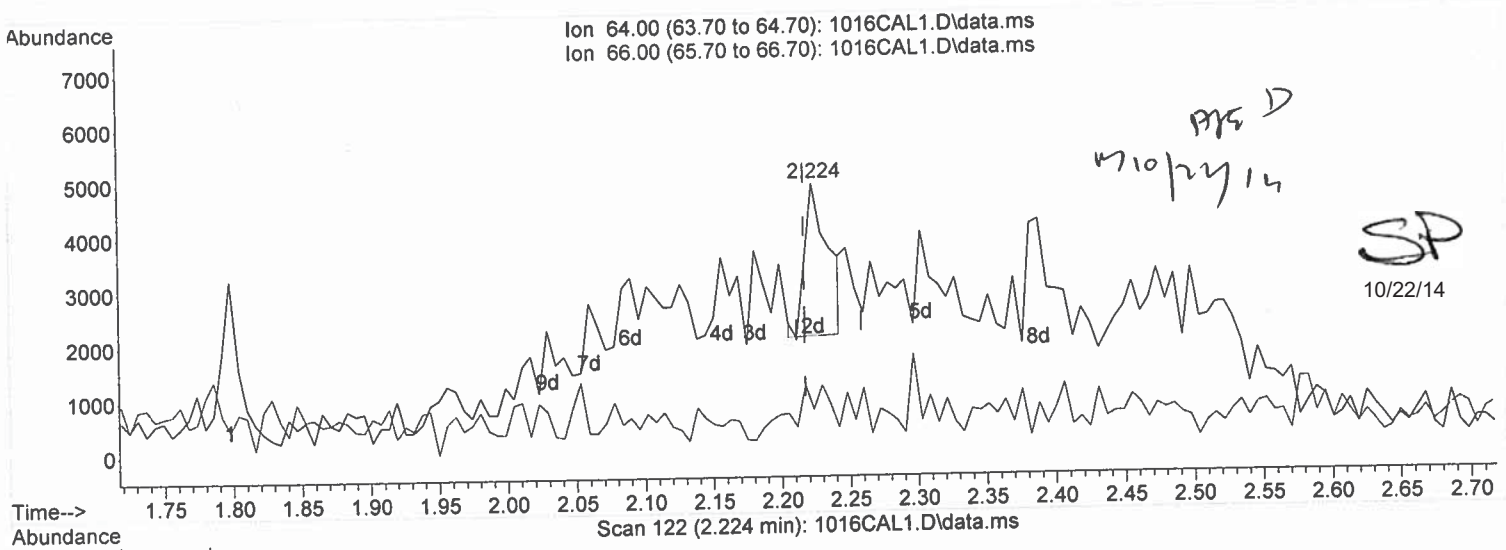
response 2823

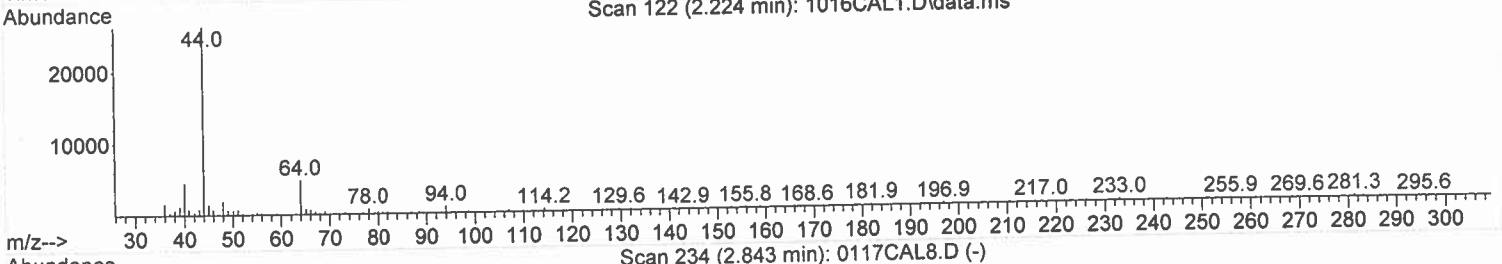
Ion	Exp%	Act%
64.00	100	100
66.00	30.70	25.93
0.00	0.00	0.00
0.00	0.00	0.00

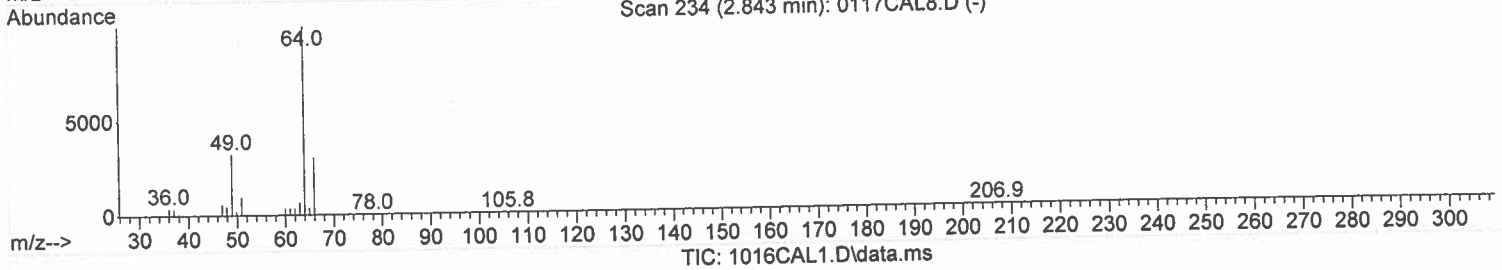
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:58:15 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration







(6) Chloroethane (M)

2.224min (+0.006) 0.61 ug/L m

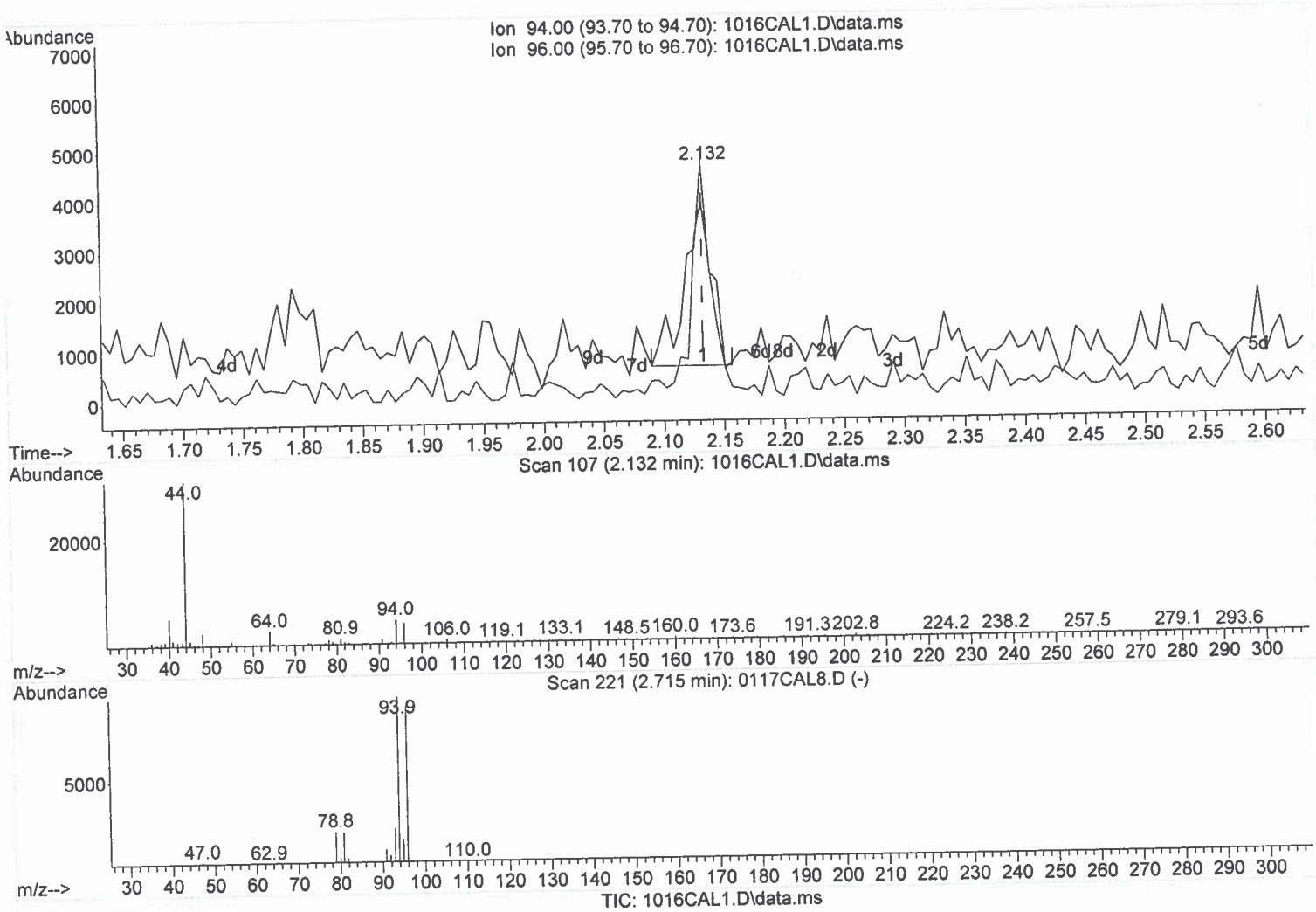
response 3309

Ion	Exp%	Act%
64.00	100	100
66.00	30.70	22.12#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:58:15 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



(5) Bromomethane (M)

2.132min (+0.000) 1.15 ug/L

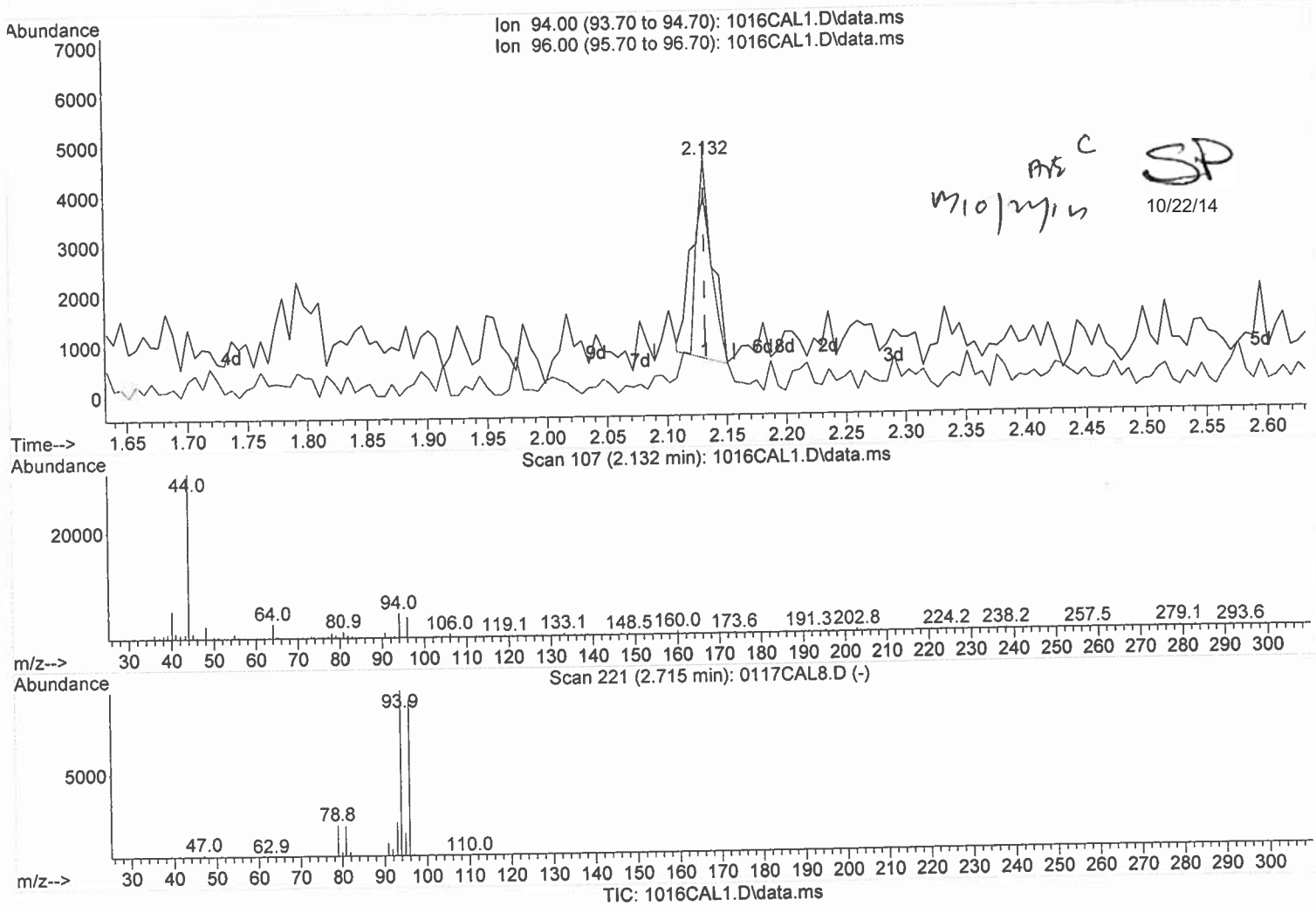
response 5378

Ion	Exp%	Act%
94.00	100	100
96.00	95.50	103.11
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:58:15 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



(5) Bromomethane (M)

2.132min (+0.000) 0.97 ug/L m

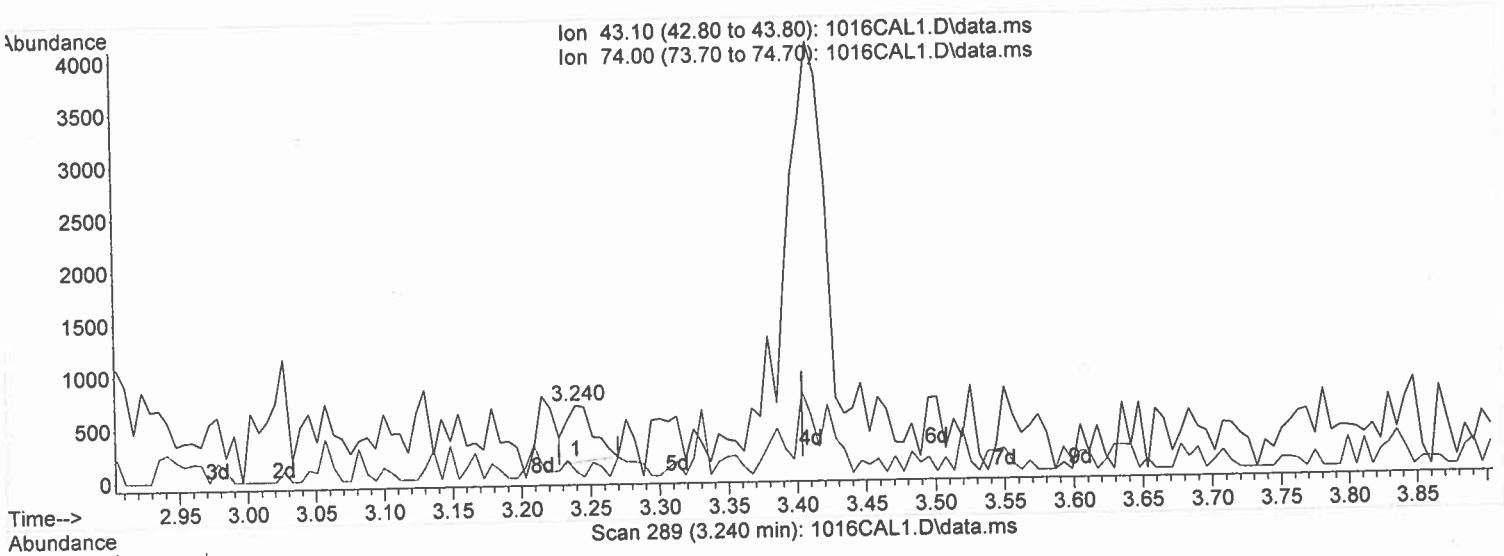
response 4531

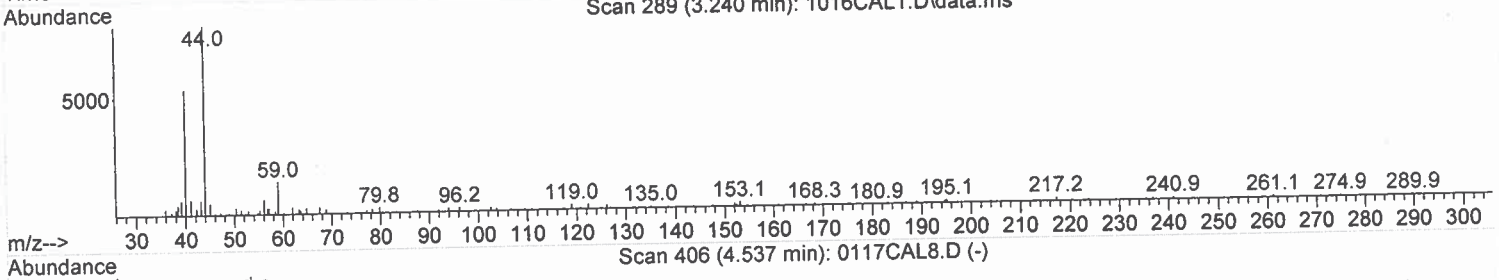
Ion	Exp%	Act%
94.00	100	100
96.00	95.50	122.38#
0.00	0.00	0.00
0.00	0.00	0.00

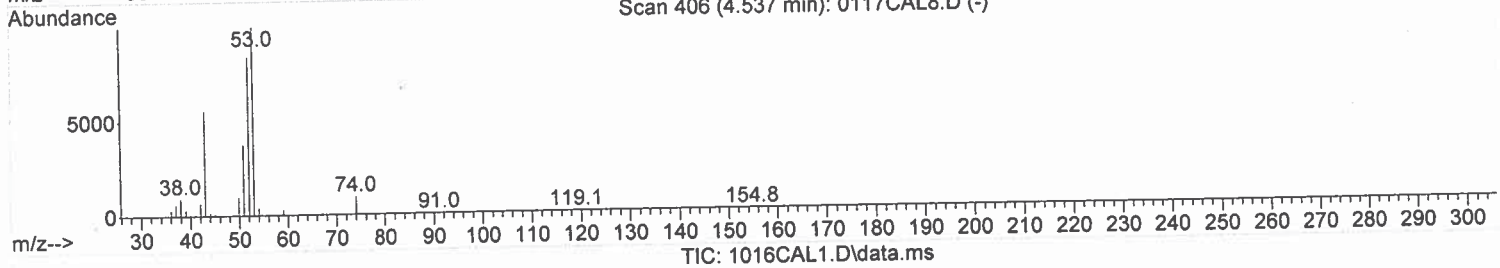
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:40:03 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration







TIC: 1016CAL1.D\data.ms

(16) Methyl Acetate (M)

3.240min (-0.164) 0.06 ug/L

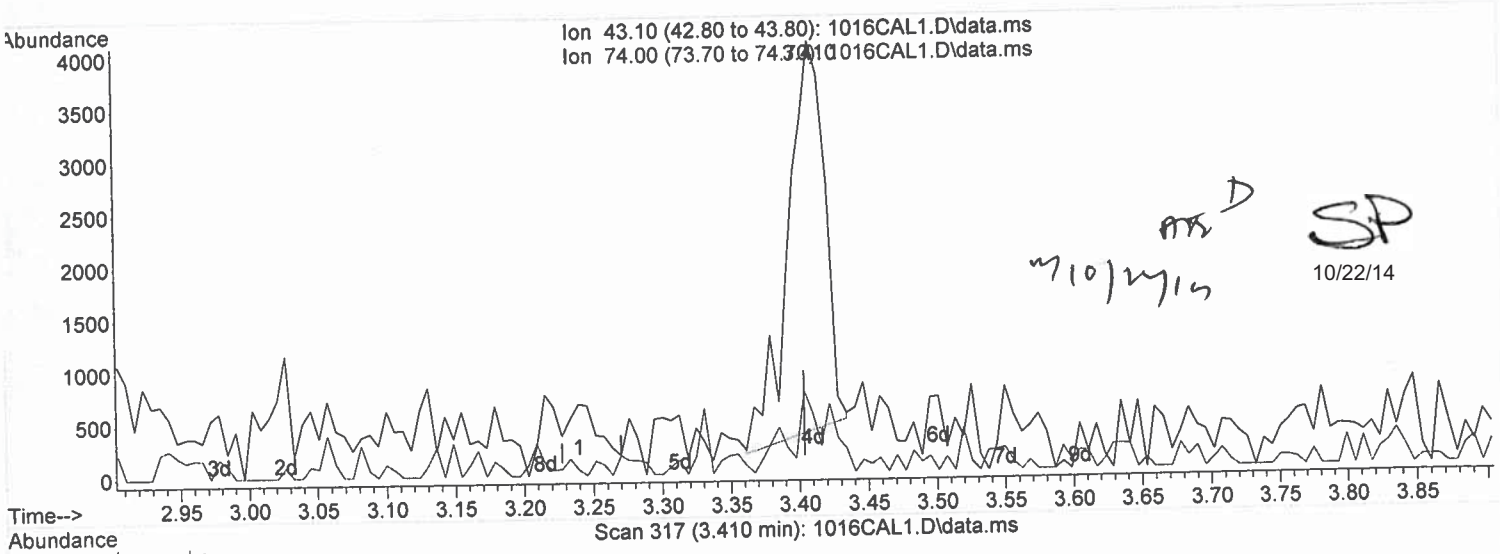
response 729

Ion	Exp%	Act%
43.10	100	100
74.00	14.50	13.44
0.00	0.00	0.00
0.00	0.00	0.00

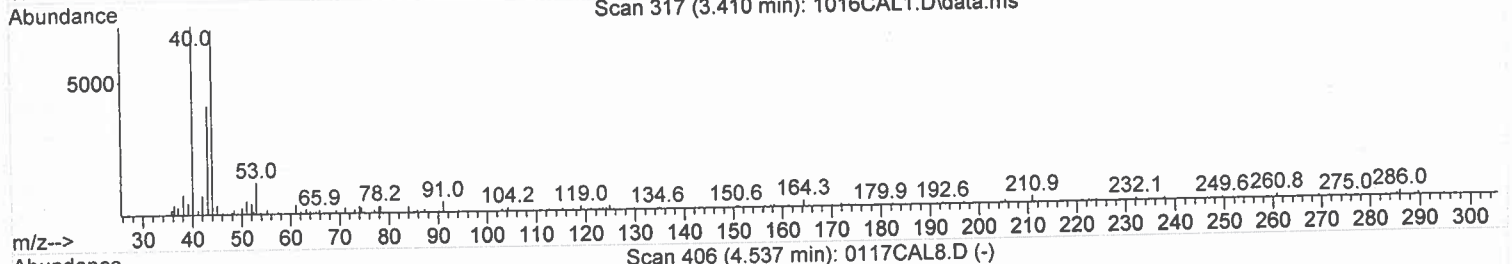
Quantitation Report (Qedit)

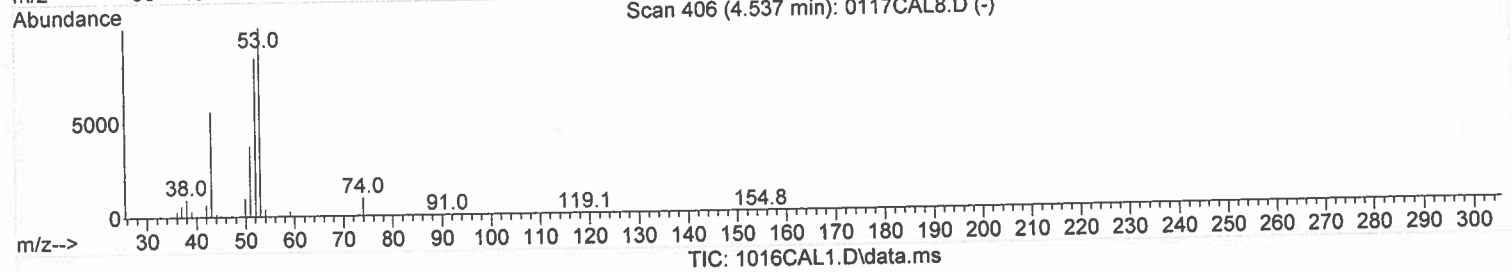
Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:40:03 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



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TIC: 1016CAL1.D\data.ms

(16) Methyl Acetate (M)

3.410min (+0.006) 0.53 ug/L m

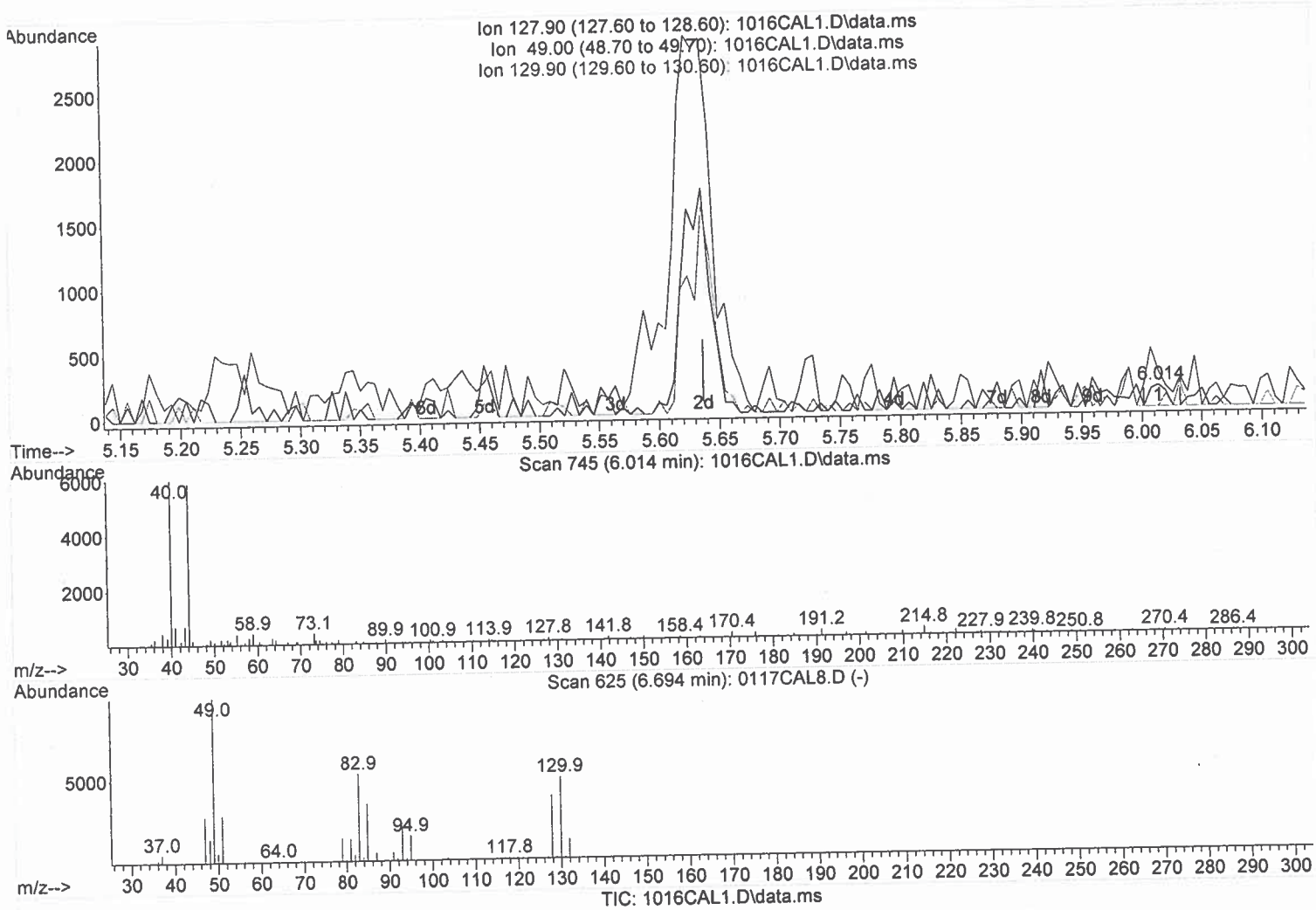
response 6945

Ion	Exp%	Act%
43.10	100	100
74.00	14.50	1.41#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:40:03 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



(35) Bromochloromethane (M)

6.014min (+0.377) 0.03 ug/L

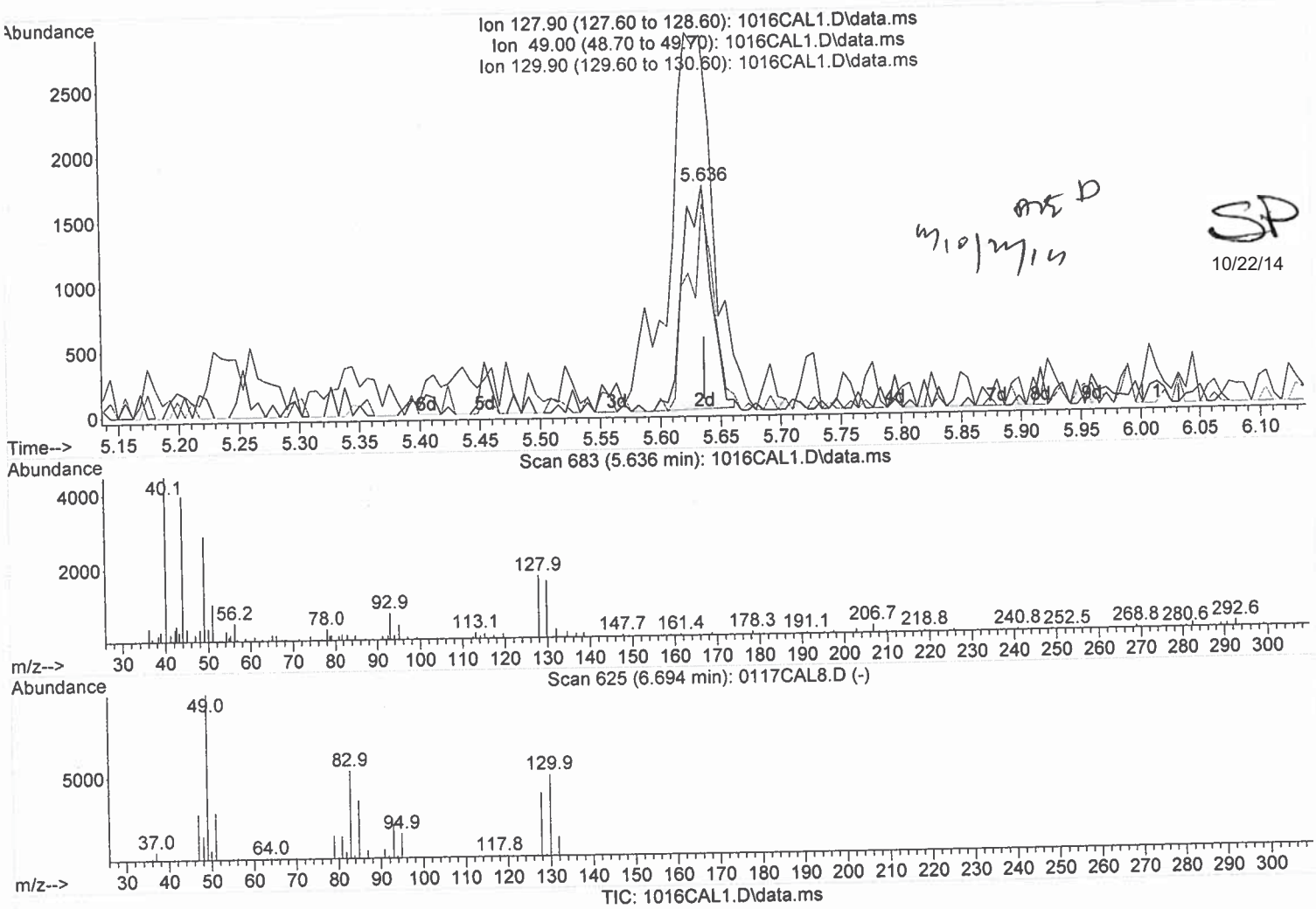
response 151

Ion	Exp%	Act%
127.90	100	100
49.00	290.10	274.17
129.90	128.40	117.22
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:40:03 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



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(35) Bromochloromethane (M)

5.636min (+0.000) 0.60 ug/L m

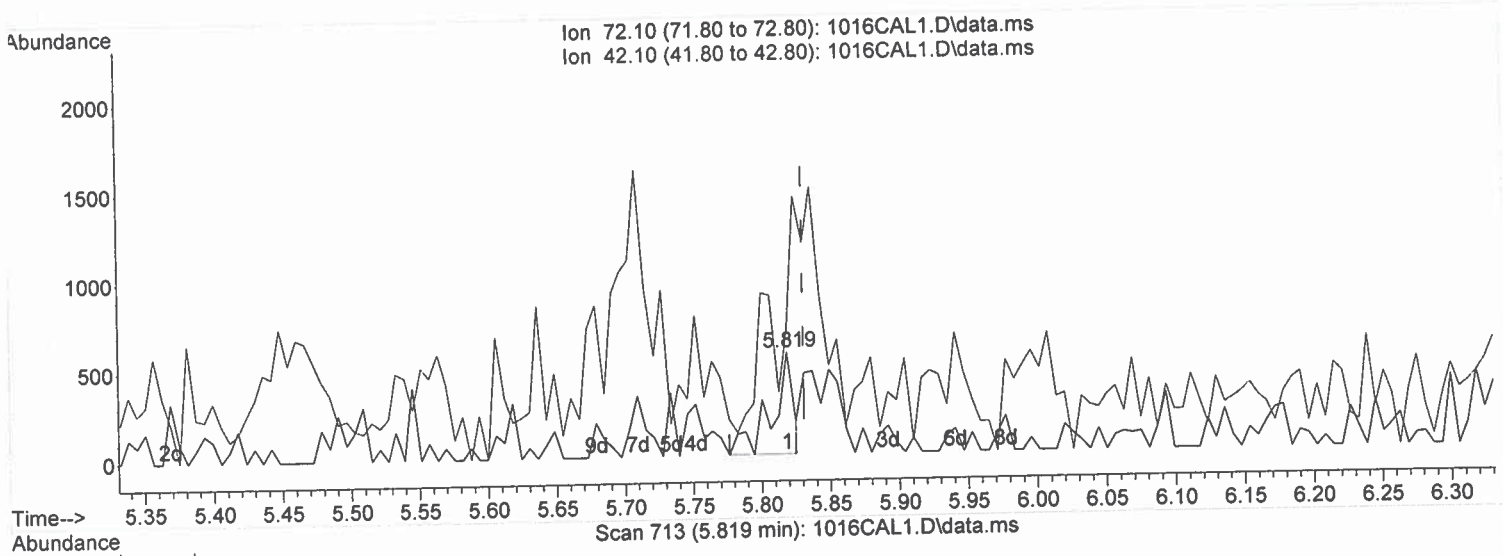
response 2756

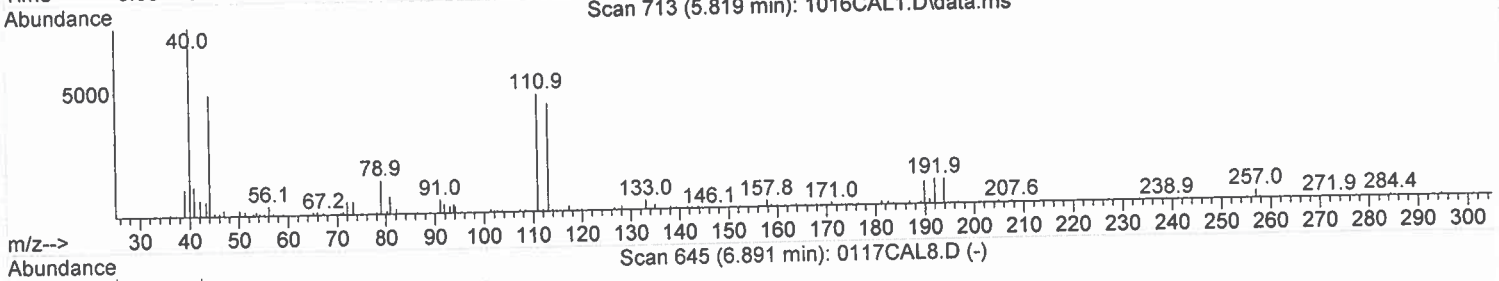
Ion	Exp%	Act%
127.90	100	100
49.00	290.10	15.02#
129.90	128.40	6.42#
0.00	0.00	0.00

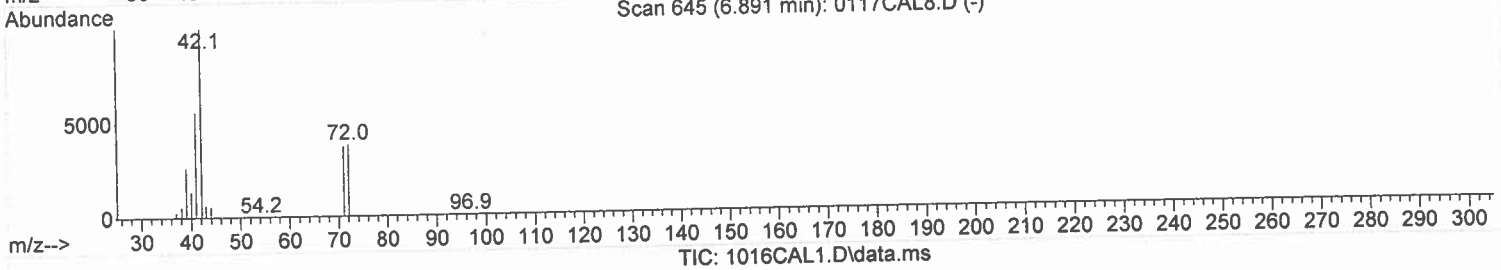
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:40:03 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration







TIC: 1016CAL1.D\data.ms

(38) Tetrahydrofuran (M)

5.819min (-0.012) 0.43 ug/L

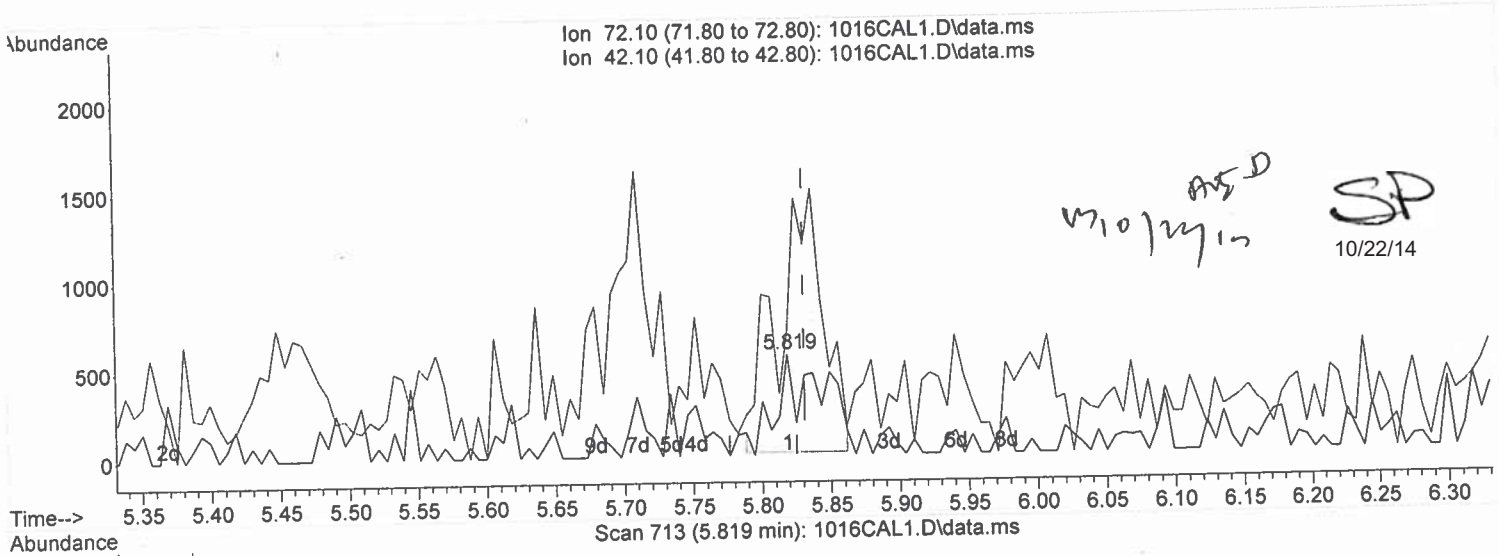
response 600

Ion	Exp%	Act%
72.10	100	100
42.10	360.60	345.50
0.00	0.00	0.00
0.00	0.00	0.00

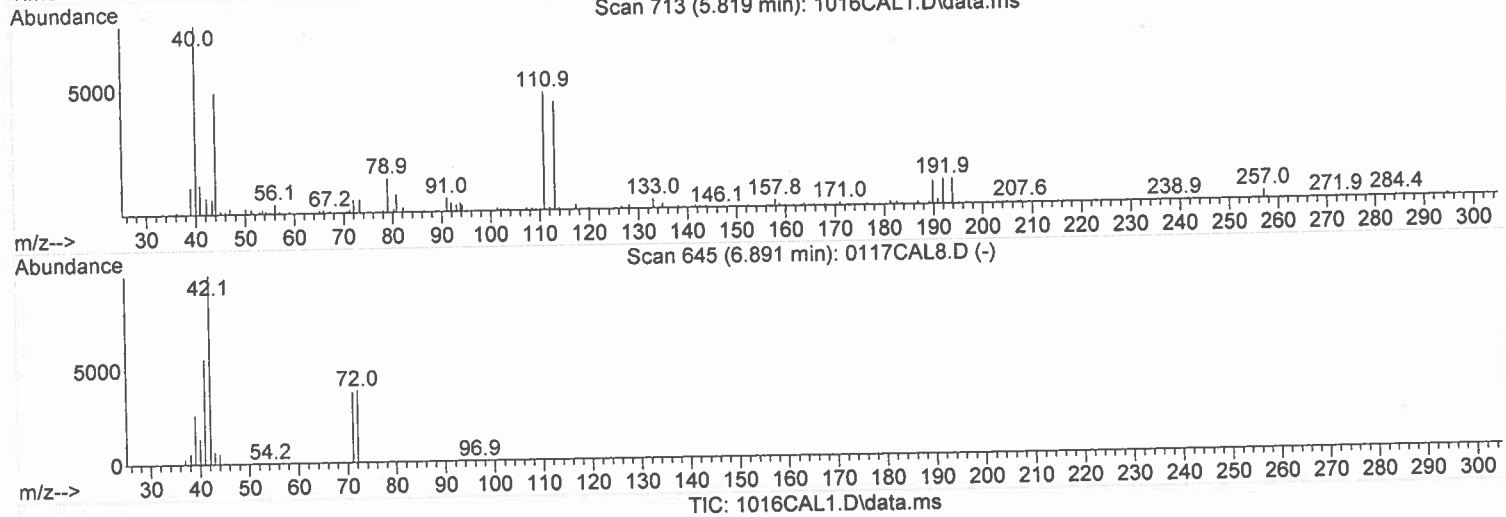
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:40:03 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



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(38) Tetrahydrofuran (M)

5.819min (-0.012) 0.89 ug/L m

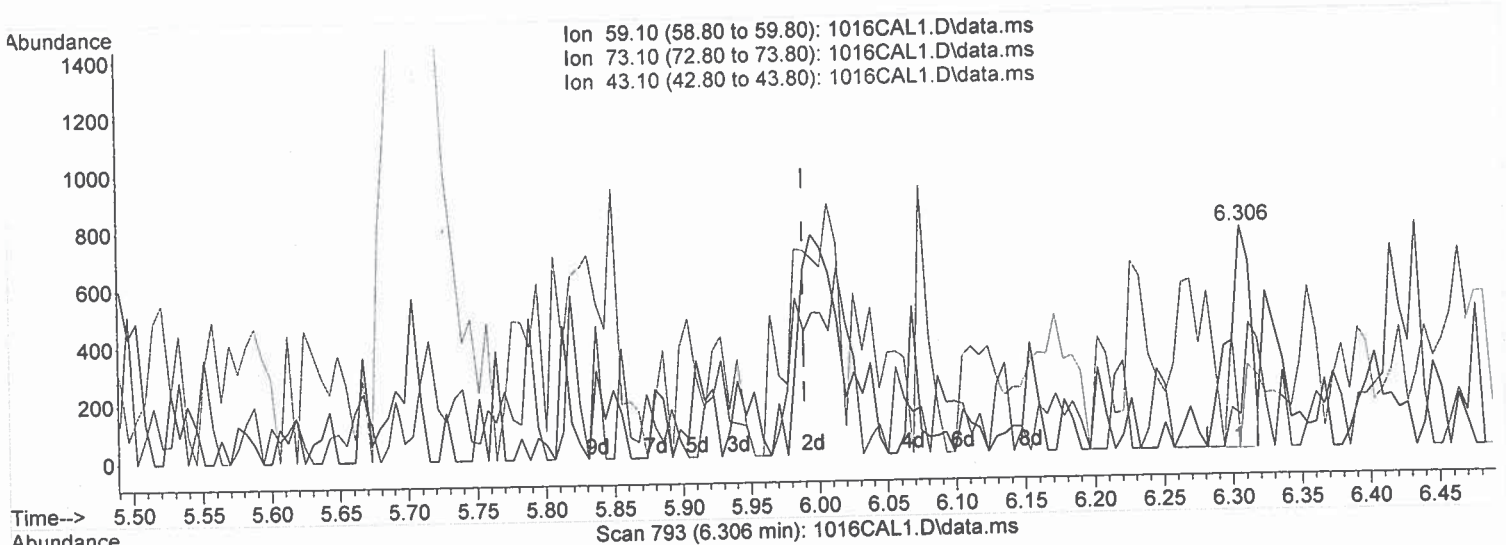
response 1241

Ion	Exp%	Act%
72.10	100	100
42.10	360.60	167.04#
0.00	0.00	0.00
0.00	0.00	0.00

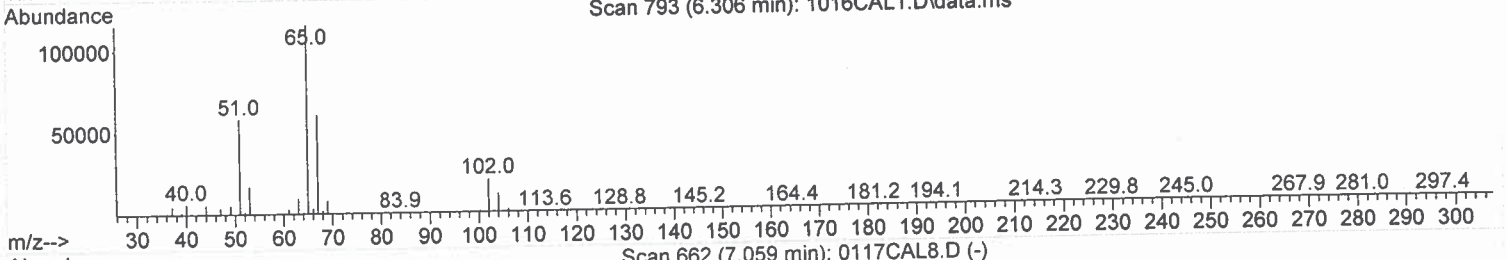
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

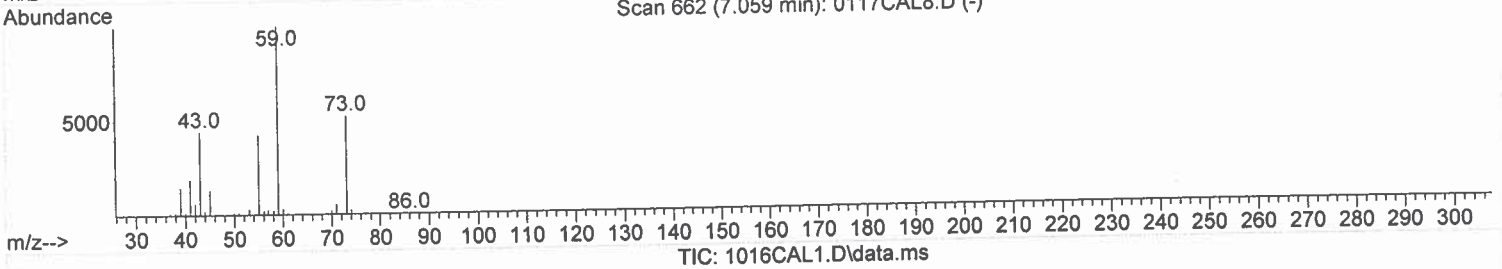
Quant Time: Oct 17 11:40:03 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



Scan 793 (6.306 min): 1016CAL1.D\data.ms



Scan 662 (7.059 min): 0117CAL8.D (-)



TIC: 1016CAL1.D\data.ms

(39) tert-Amyl alcohol (M)

6.306min (+0.316) 0.97 ug/L

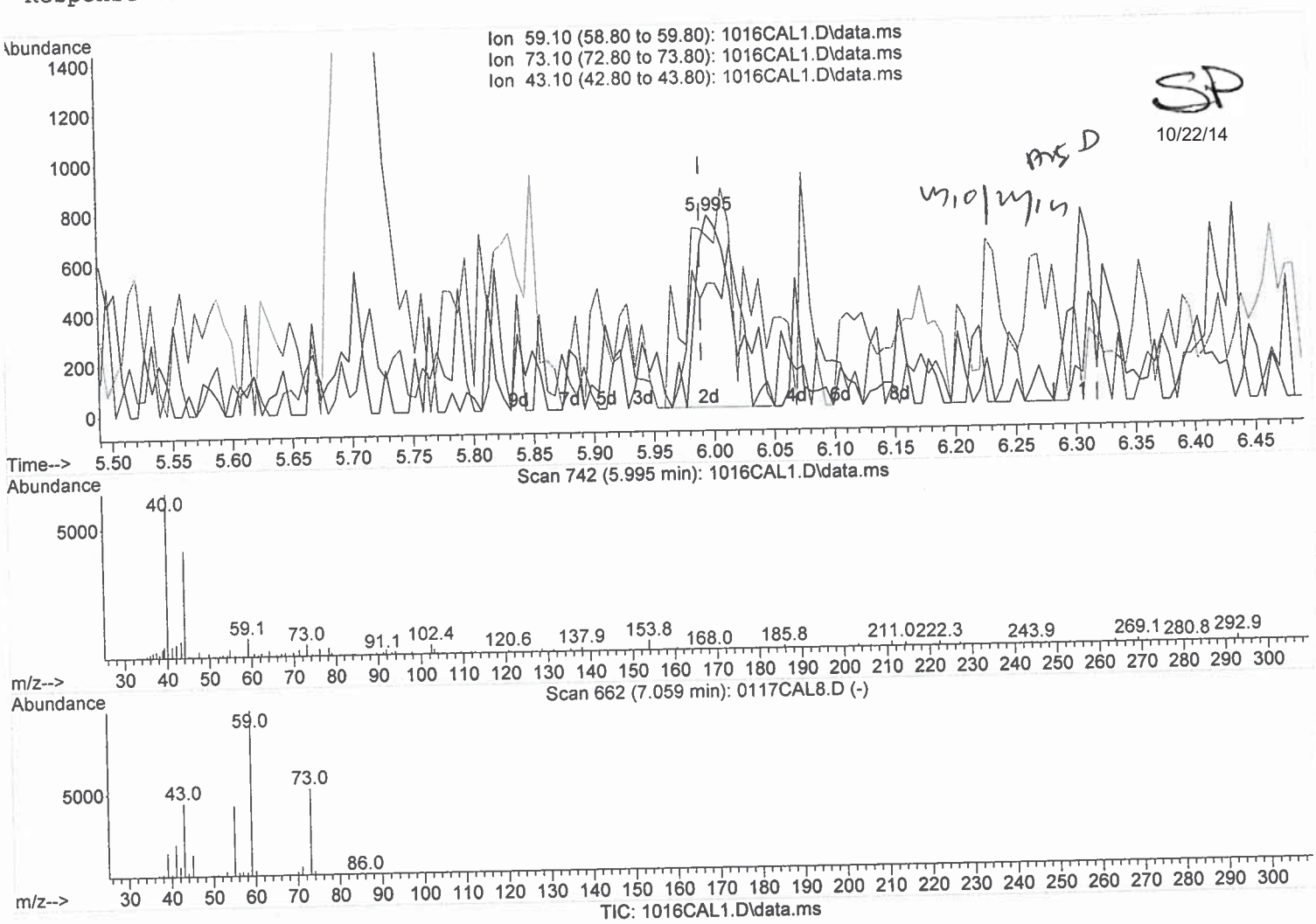
response 888

Ion	Exp%	Act%
59.10	100	100
73.10	50.20	50.34
43.10	43.20	50.68
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:40:03 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



SP 10/22/14

(39) tert-Amyl alcohol (M)

5.995min (+0.006) 1.92 ug/L m

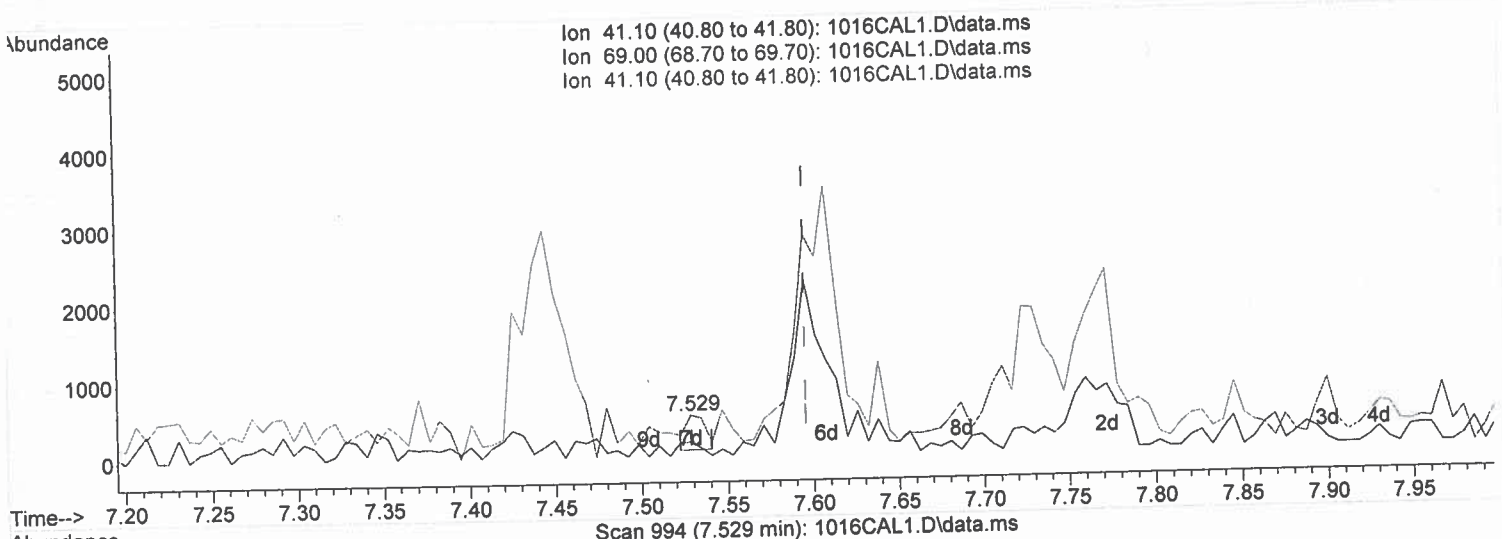
response 1753

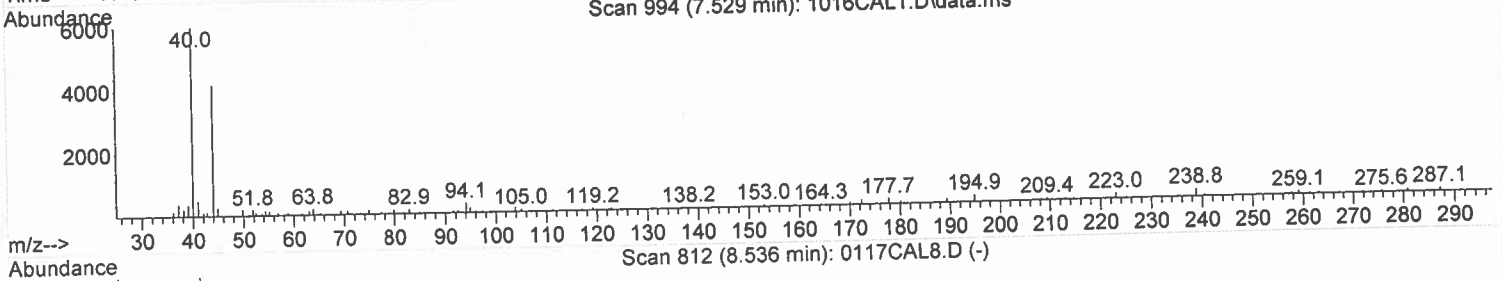
Ion	Exp%	Act%
59.10	100	100
73.10	50.20	25.50#
43.10	43.20	25.67#
0.00	0.00	0.00

Quantitation Report (Qedit)

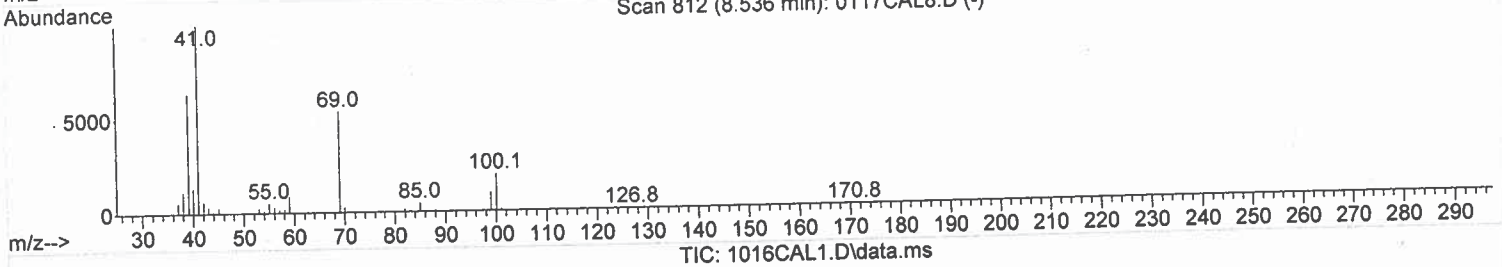
Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:40:03 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration





Scan 994 (7.529 min): 1016CAL1.D\data.ms



Scan 812 (8.536 min): 0117CAL8.D (-)

TIC: 1016CAL1.D\data.ms

(51) Methyl methacrylate (M)

7.529min (-0.067) 0.03 ug/L

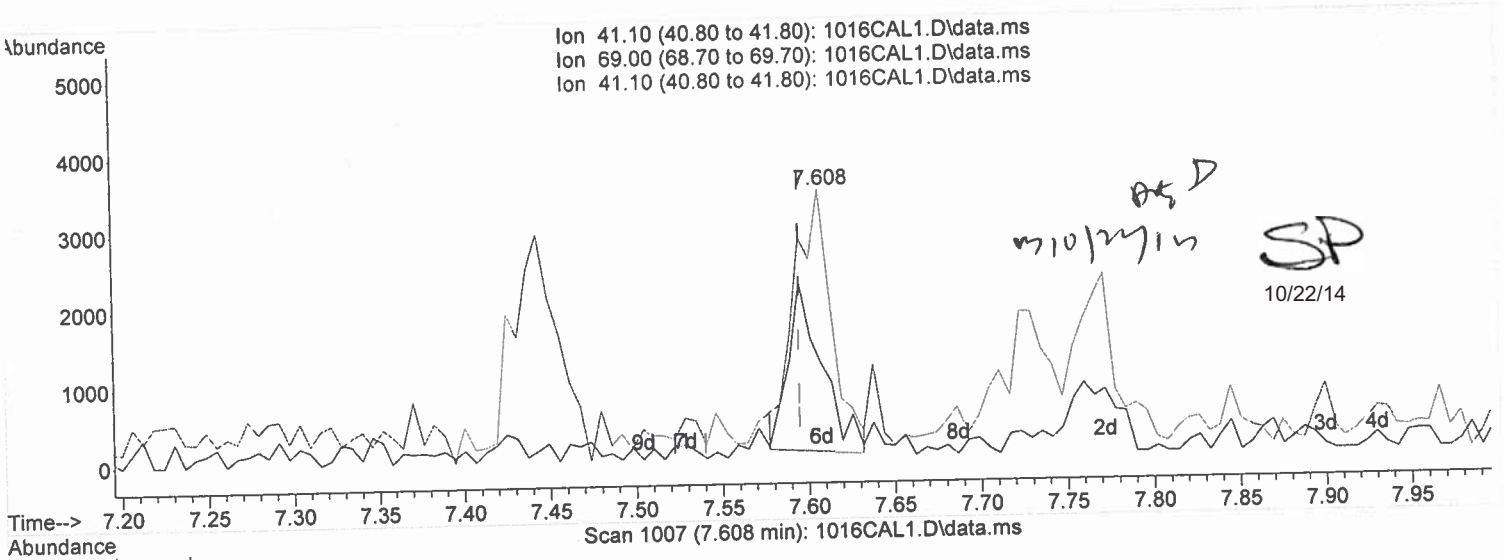
response 351

Ion	Exp%	Act%
41.10	100	100
69.00	52.30	58.97
41.10	100.00	100.00
0.00	0.00	0.00

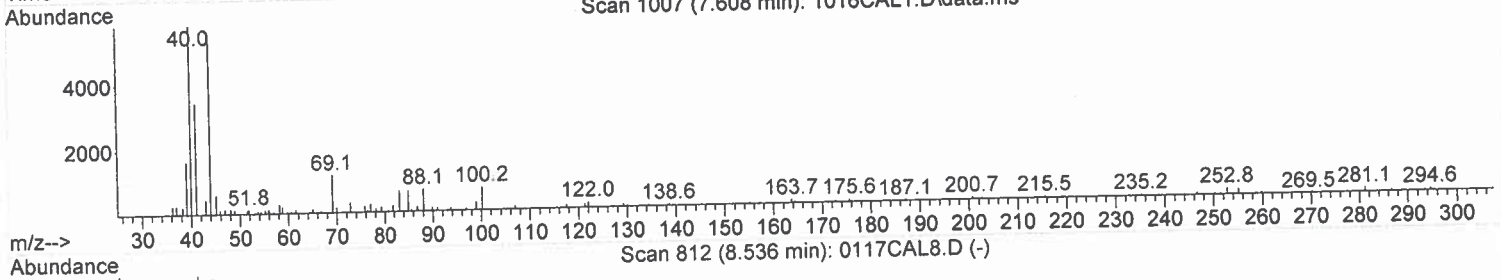
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

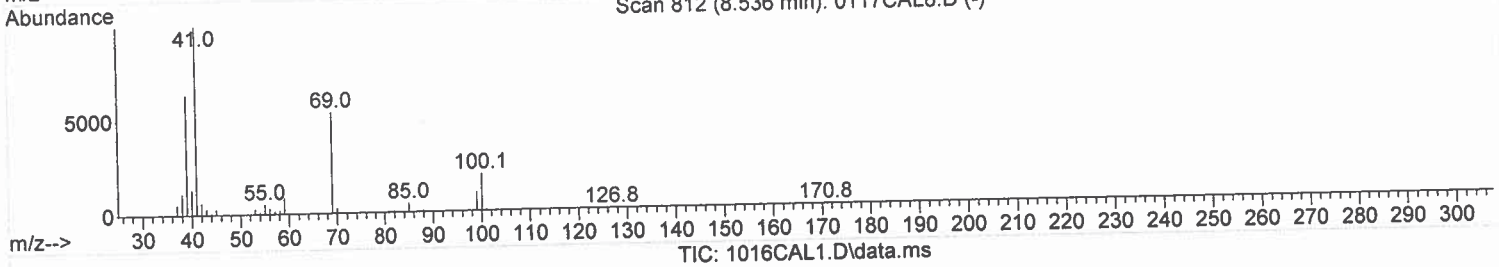
Quant Time: Oct 17 11:40:03 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



Scan 1007 (7.608 min): 1016CAL1.D\data.ms



Scan 812 (8.536 min): 0117CAL8.D (-)



TIC: 1016CAL1.D\data.ms

(51) Methyl methacrylate (M)

7.608min (+0.012) 0.41 ug/L m

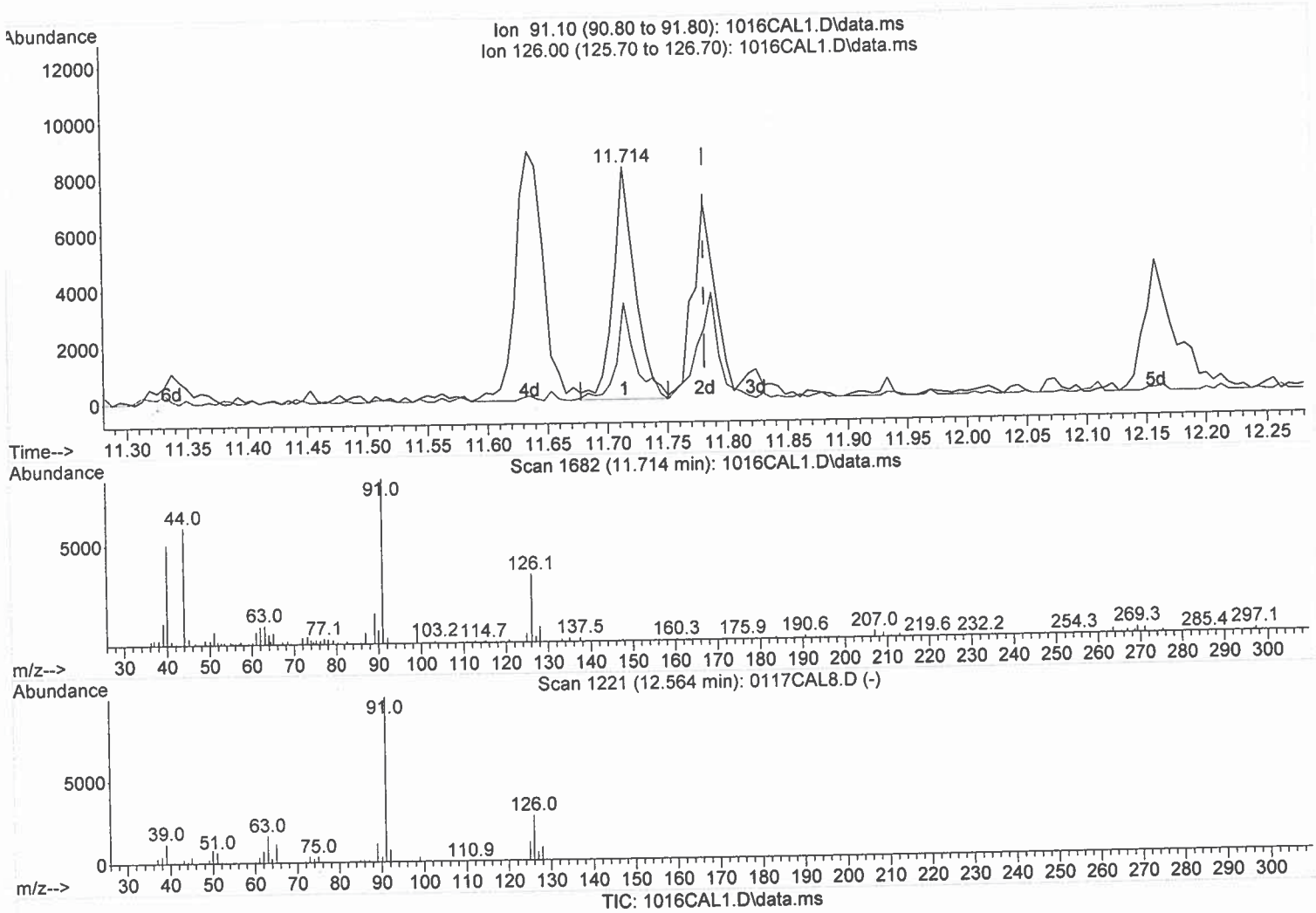
response 5178

Ion	Exp%	Act%
41.10	100	100
69.00	52.30	4.00#
41.10	100.00	6.78#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:40:03 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



TIC: 1016CAL1.D\data.ms

(88) 4-Chlorotoluene (M)

11.714min (-0.067) 0.44 ug/L

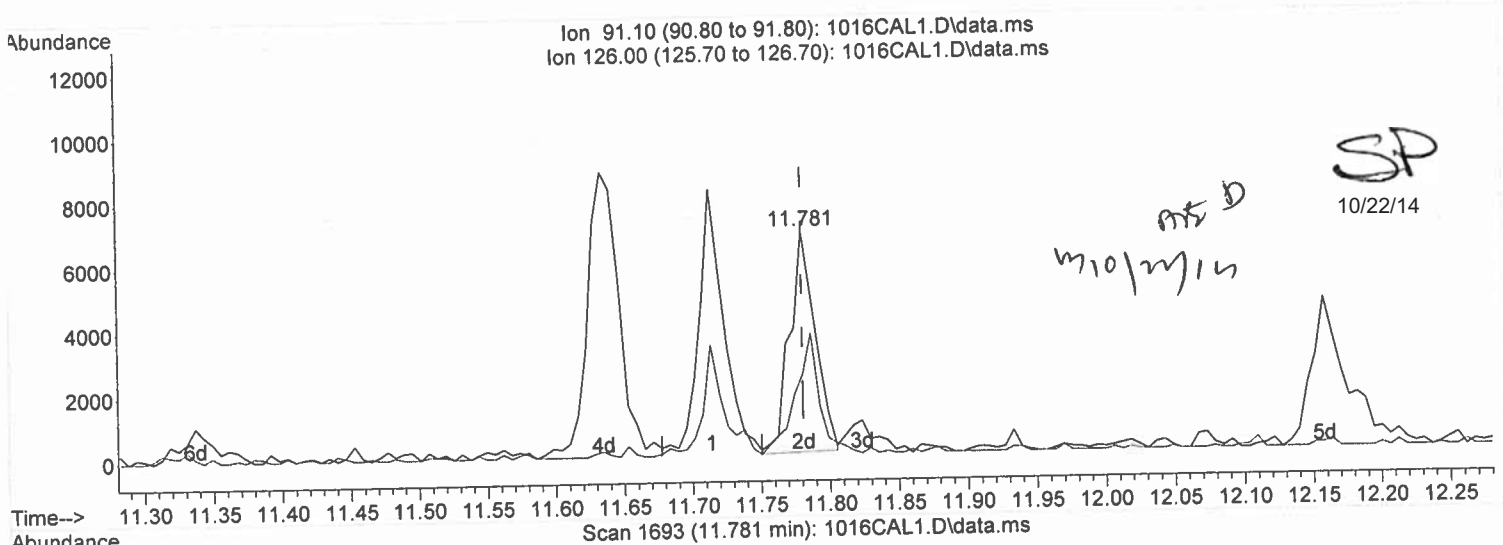
response 10550

Ion	Exp%	Act%
91.10	100	100
126.00	34.70	35.34
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

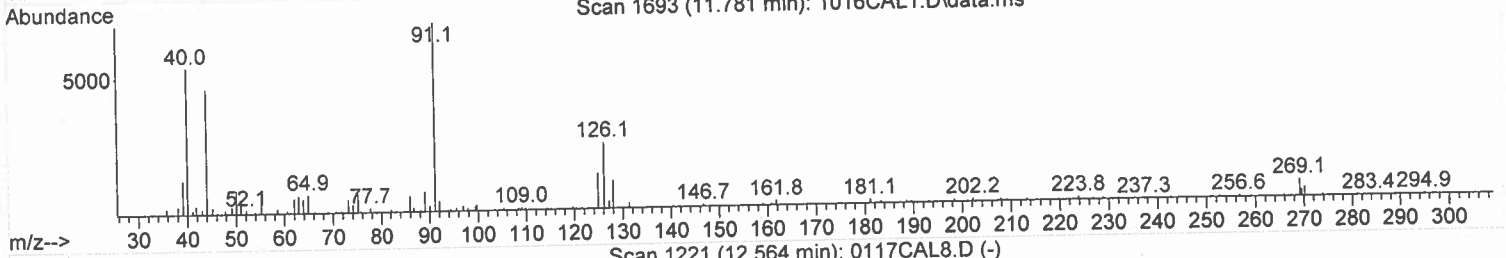
Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

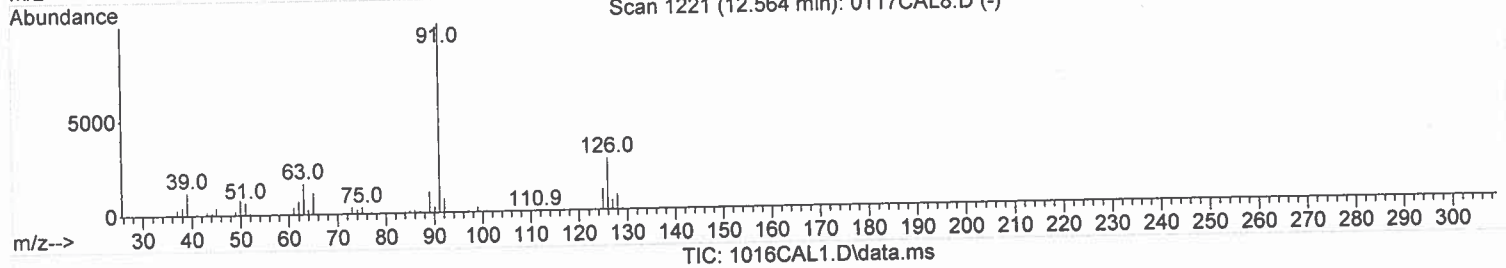
Quant Time: Oct 17 11:40:03 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



SP 10/22/14

m10/m/14





TIC: 1016CAL1.D\data.ms

(88) 4-Chlorotoluene (M)

11.781min (+0.000) 0.37 ug/L m

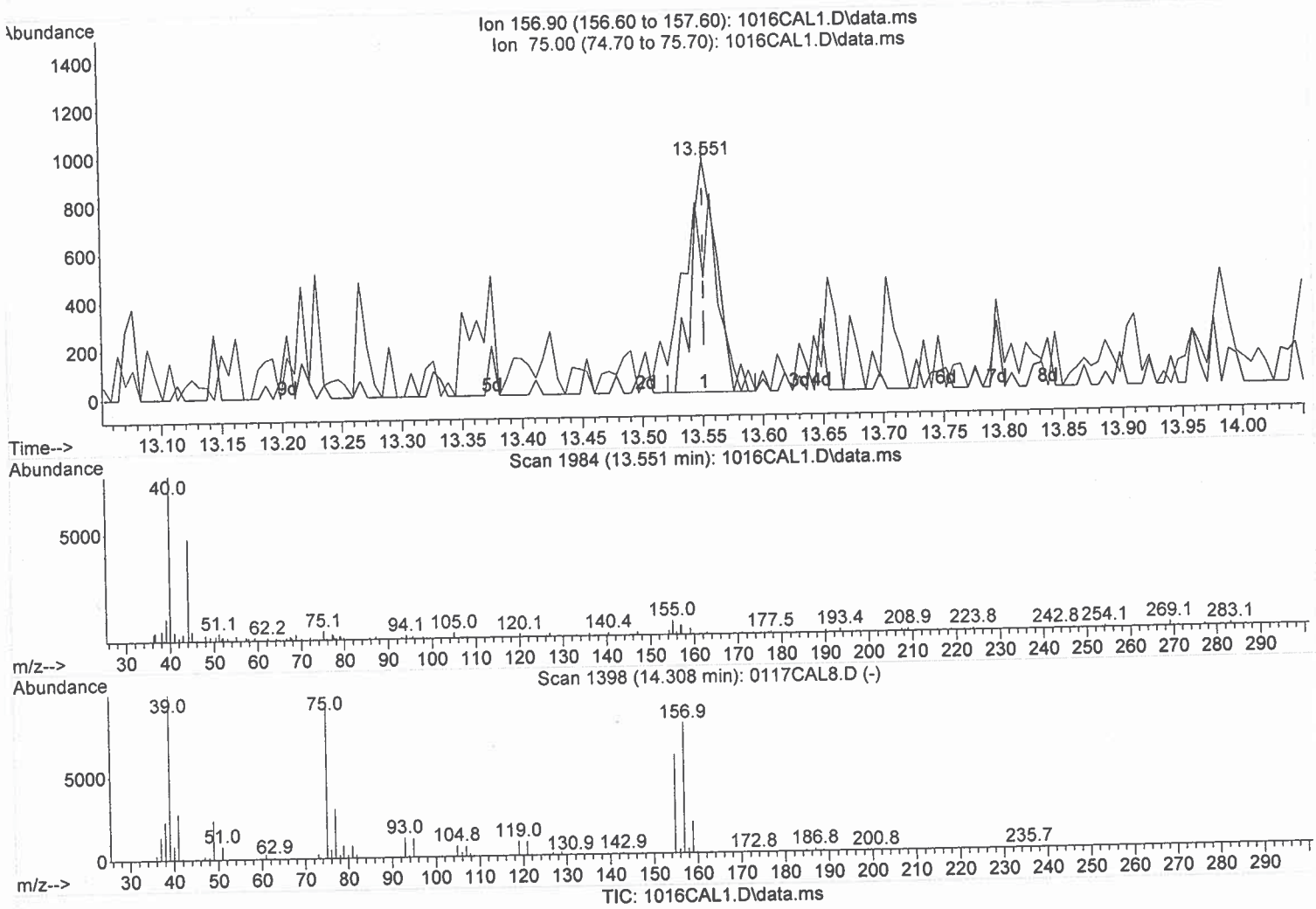
response 8845

Ion	Exp%	Act%
91.10	100	100
126.00	34.70	42.15#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 12:00:49 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



(98) 1,2-Dibromo-3-chloropropane (M)

13.551min (+0.000) 0.65 ug/L

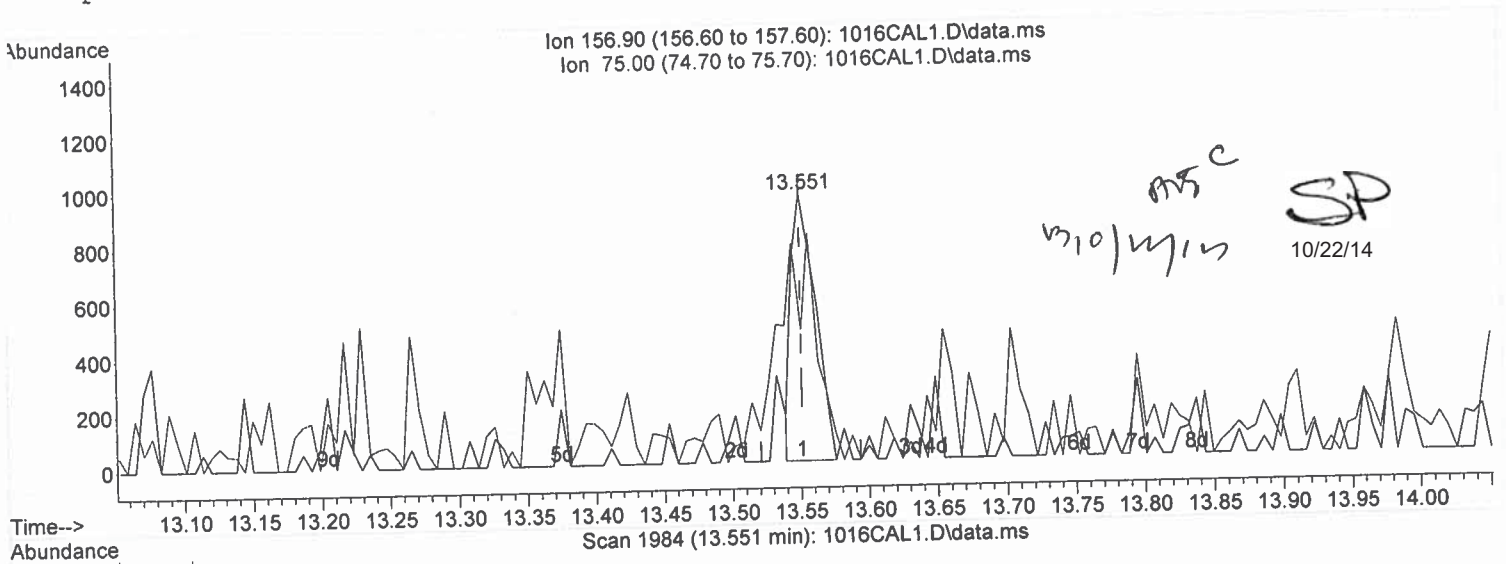
response 1399

Ion	Exp%	Act%
156.90	100	100
75.00	94.20	117.58#
0.00	0.00	0.00
0.00	0.00	0.00

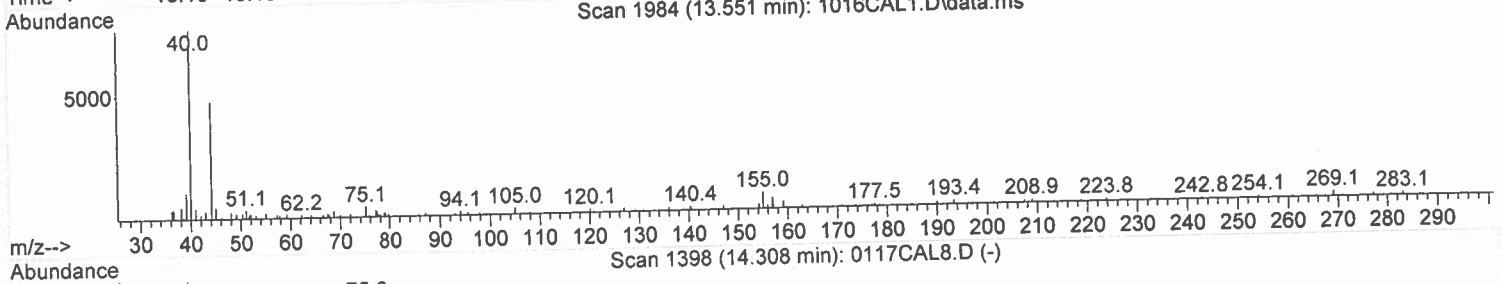
Quantitation Report (Qedit)

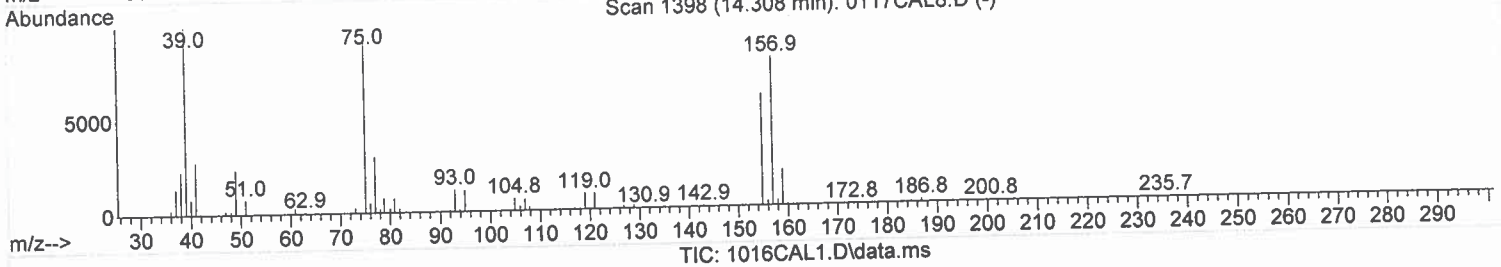
Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 12:00:49 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



SP 10/22/14





TIC: 1016CAL1.D\data.ms

(98) 1,2-Dibromo-3-chloropropane (M)

13.551min (+0.000) 0.55 ug/L m

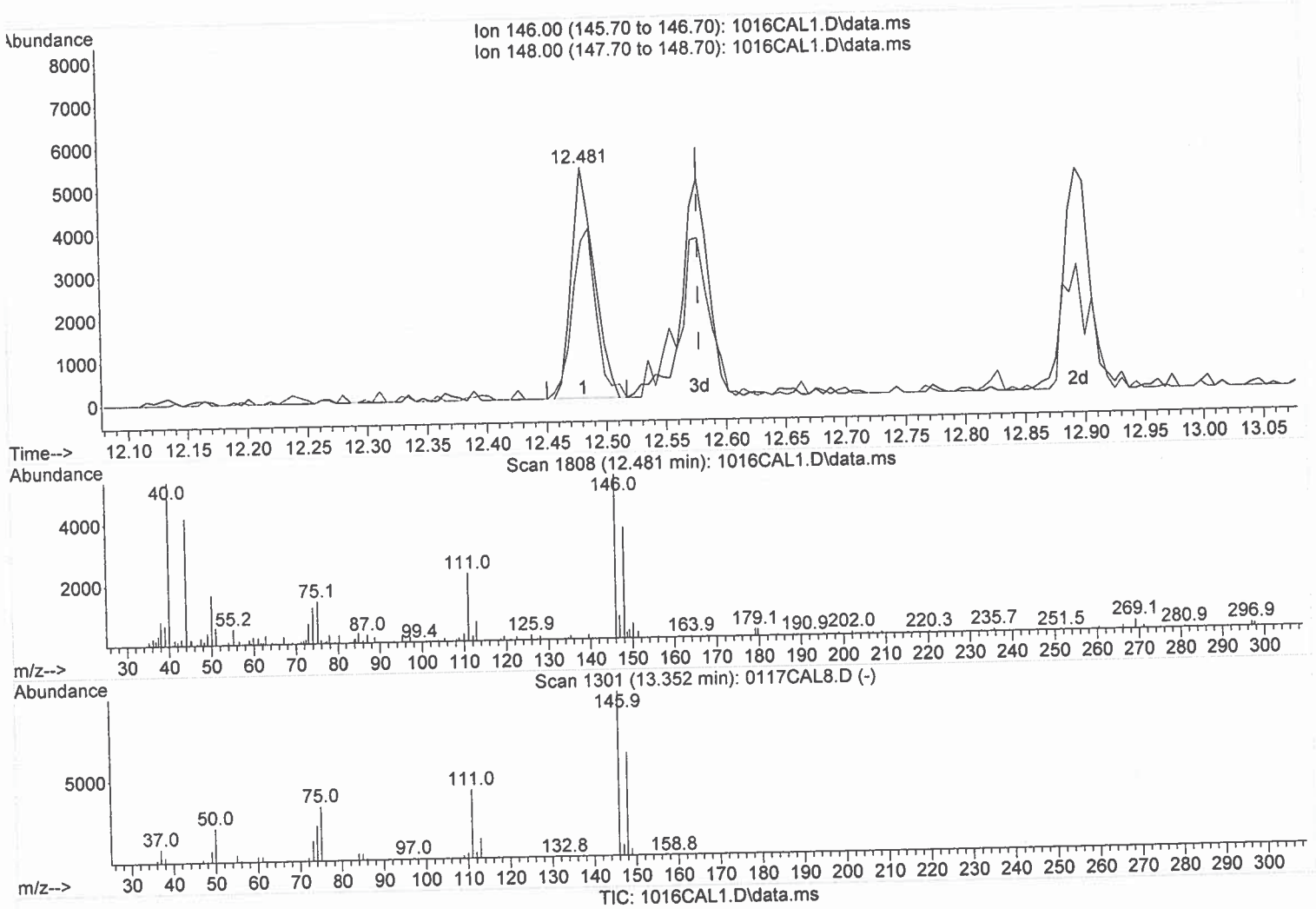
response 1184

Ion	Exp%	Act%
156.90	100	100
75.00	94.20	138.94#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:40:03 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



(94) 1,4-Dichlorobenzene (M)

12.481min (-0.097) 0.47 ug/L

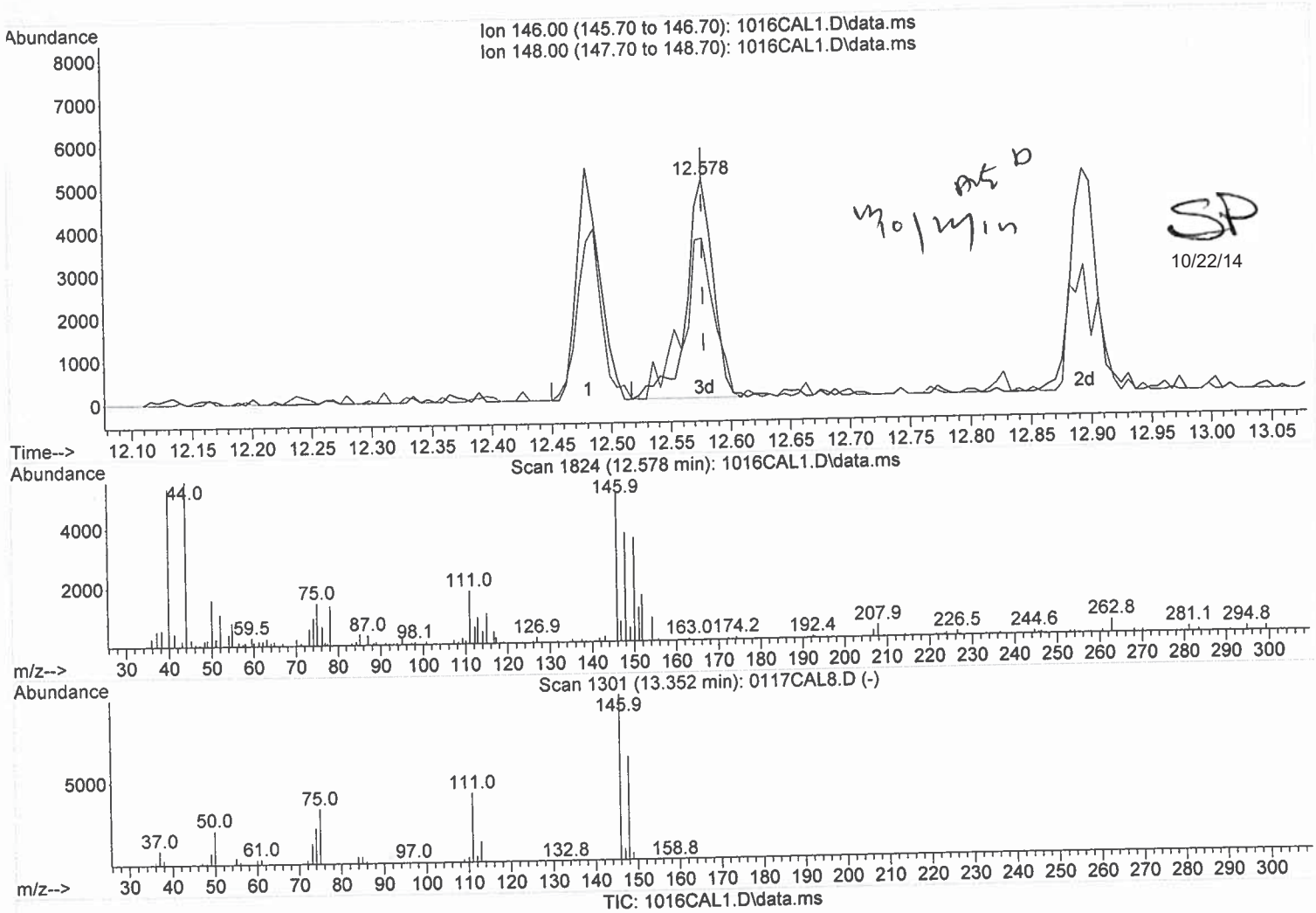
response 7200

Ion	Exp%	Act%
146.00	100	100
148.00	64.10	76.61
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:40:03 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



(94) 1,4-Dichlorobenzene (M)

12.578min (+0.000) 0.50 ug/L m

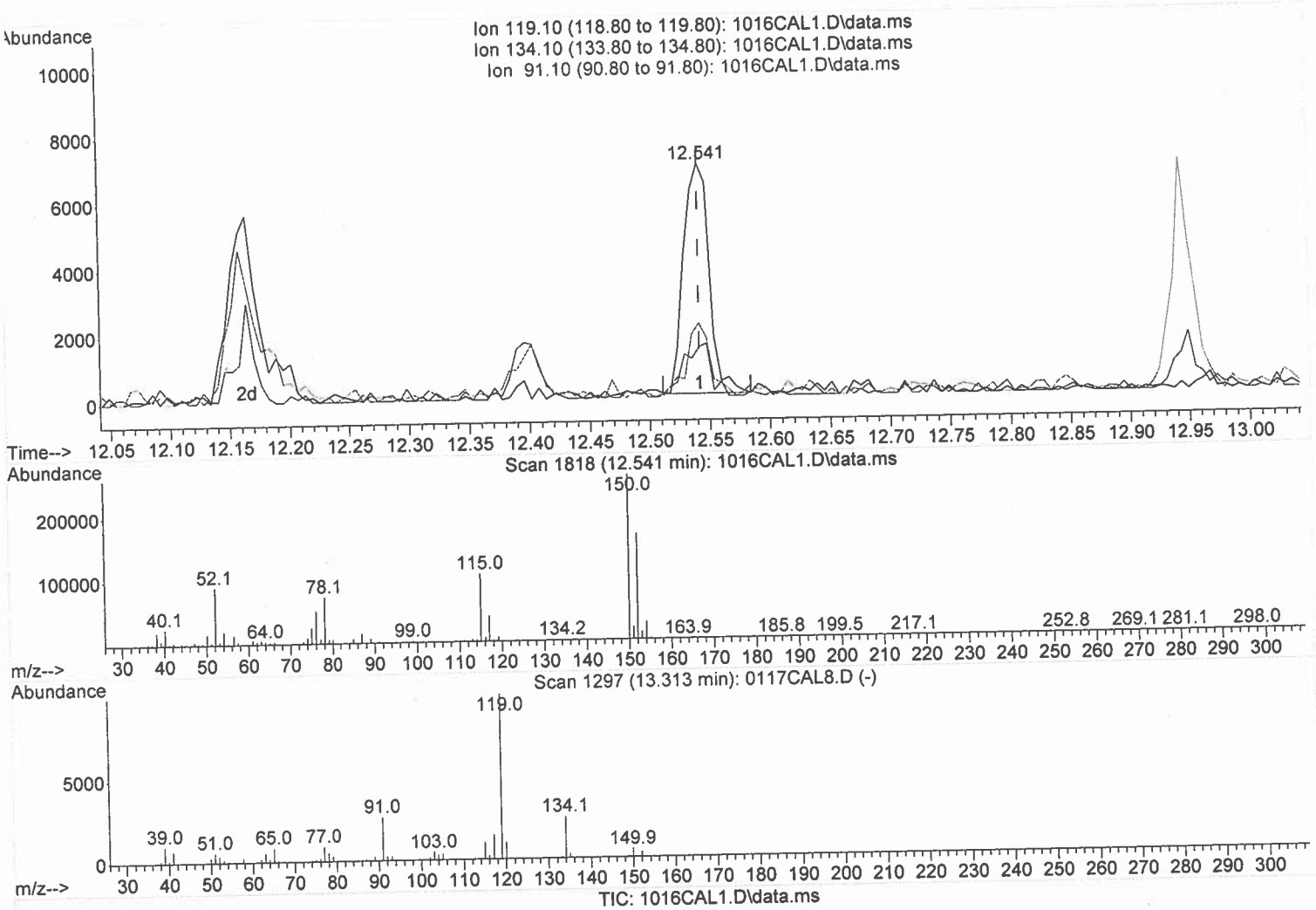
response 7781

Ion	Exp%	Act%
146.00	100	100
148.00	64.10	70.89
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:42:38 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



TIC: 1016CAL1.D\data.ms

(95) p-Isopropyltoluene (M)

12.541min (+0.000) 0.36 ug/L

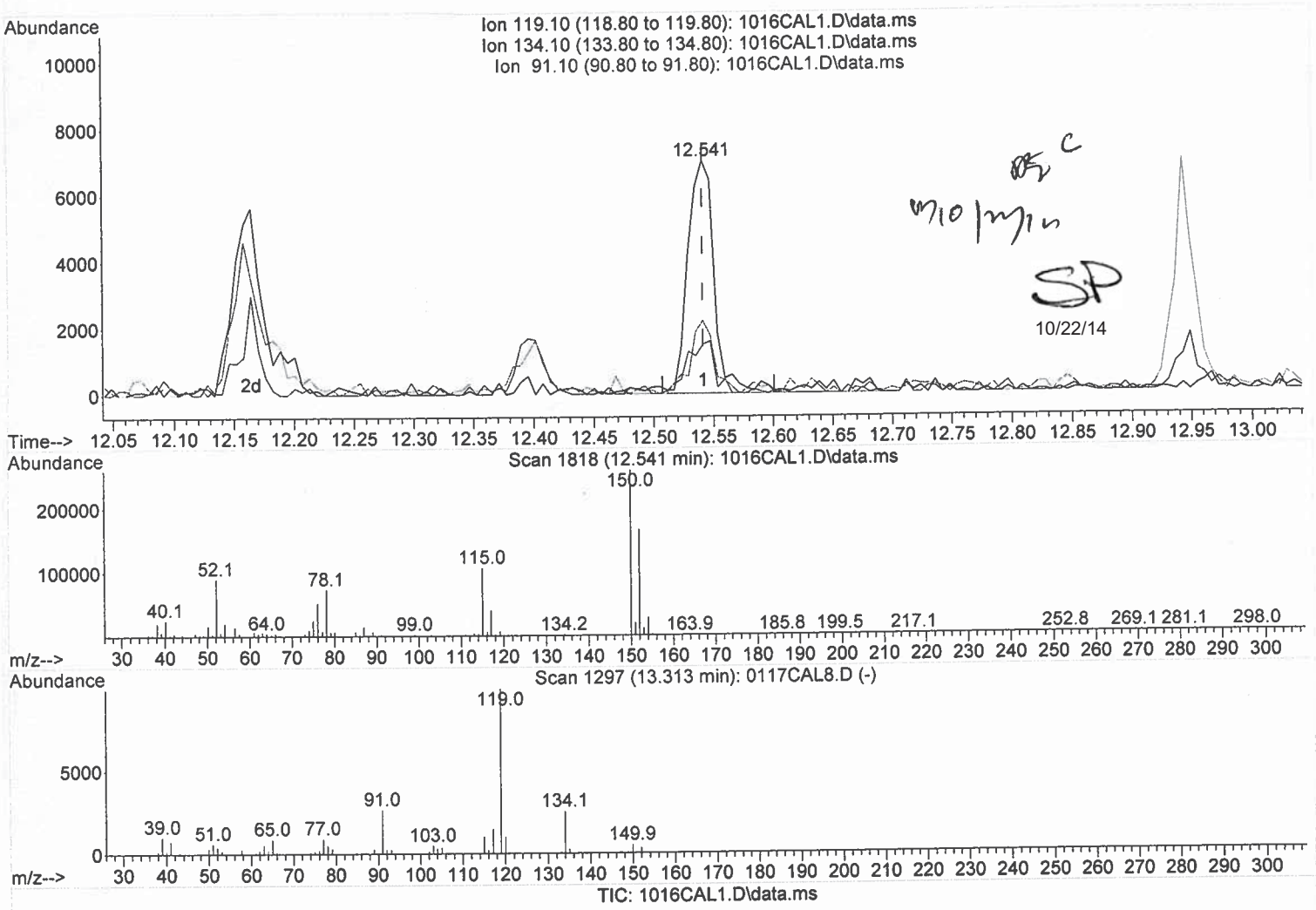
response 10133

Ion	Exp%	Act%
119.10	100	100
134.10	25.40	24.57
91.10	23.80	29.79#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:46:17 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



TIC: 1016CAL1.D\data.ms

(95) p-Isopropyltoluene (M)

12.541min (+0.000) 0.43 ug/L m

response 11998

Ion	Exp%	Act%
119.10	100	100
134.10	25.40	20.75
91.10	23.80	25.16
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL2.D
Acq On : 16 Oct 2014 1:46 pm
Operator :
Sample : SEQ-CAL2
Misc : 1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 17 11:39:27 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:37:06 2014
Response via : Initial Calibration

10/10/14

SP 10/22/14

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorobenzene	6.865	96	853215	30.00 ug/L	0.00
59) Chlorobenzene-d5	10.114	82	345445	30.00 ug/L	0.00
81) 1,4-Dichlorobenzene-d4	12.547	152	308352	30.00 ug/L	# 0.00
System Monitoring Compounds					
37) Dibromofluoromethane	5.789	111	278397	36.43 ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 121.43%#		
41) 1,2-Dichloroethane-d4	6.318	102	67452	36.33 ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 121.10%#		
60) Toluene-d8	8.636	98	940580	34.03 ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 113.43%		
80) Bromofluorobenzene	11.337	95	341005	32.84 ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 109.47%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.536	85	8641	1.1313 ug/L	93
3) Chloromethane	1.694	50	16393	1.3432 ug/L	89
4) Vinyl chloride	1.798	62	8114	1.1266 ug/L #	66
5) Bromomethane	2.132	94	6809	1.5759 ug/L	97
6) Chloroethane	2.218	64	8393m	1.6475 ug/L	
7) Trichlorofluoromethane	2.576	101	11888	1.0976 ug/L	100
8) Acrolein	2.716	56	10935	5.6415 ug/L	95
9) Acetone	2.795	43	12201	2.3488 ug/L	97
10) Acetonitrile	2.850	41	23014	10.2576 ug/L	90
11) Ethyl Ether	2.875	59	7933	0.9986 ug/L	86
12) 1,1-Dichloroethene	3.148	96	7212	1.0358 ug/L	94
13) Trichlorotrifluoroethane	3.185	101	7406	1.0612 ug/L	90
14) Iodomethane	3.300	142	4012	0.5755 ug/L #	79
15) t-Butyl Alcohol	3.233	59	5952	4.7801 ug/L #	66
16) Methyl Acetate	3.404	43	13697	1.0114 ug/L	97
17) Acrylonitrile	3.434	53	29439	5.3927 ug/L	96
18) Allyl chloride	3.501	76	4307	1.0912 ug/L	91
19) Methylene chloride	3.532	84	14793	1.6466 ug/L	97
20) Carbon disulfide	3.605	76	22461	1.0747 ug/L #	90
21) trans-1,2-dichloroethene	4.195	96	9069	1.2356 ug/L	83
22) MTBE	4.170	73	25489	1.0309 ug/L #	83
23) 1,1-Dichloroethane	4.584	63	17362	1.0439 ug/L #	87
24) Vinyl acetate	4.657	43	47671	1.8248 ug/L	100
25) Propionitrile	4.779	54	20867	9.9451 ug/L #	90
26) Hexane	4.779	57	6840	0.8118 ug/L #	63
27) Chloroprene	4.864	53	15219	0.9837 ug/L	92
28) Di-isopropyl ether	4.955	45	39136	0.9959 ug/L	97
29) 2-Butanone	5.065	43	14886	1.9062 ug/L #	80
30) Methacrylonitrile	5.241	41	94895	10.2044 ug/L	98
31) cis-1,2-Dichloroethene	5.326	96	8745	1.0599 ug/L	98
32) 2,2-Dichloropropane	5.442	77	11640	1.0216 ug/L #	80
33) ETBE	5.448	59	28523	0.9510 ug/L #	88
34) Chloroform	5.606	83	18754	1.2487 ug/L	99
35) Bromochloromethane	5.636	128	5238	1.1621 ug/L	87
36) Isobutyl alcohol	5.697	42	6615	17.4703 ug/L	94
38) Tetrahydrofuran	5.831	72	1832m	1.3315 ug/L	

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL2.D
Acq On : 16 Oct 2014 1:46 pm
Operator :
Sample : SEQ-CAL2
Misc : 1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 17 11:39:27 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:37:06 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
39) tert-Amyl alcohol	5.989	59	4458	4.7865 ug/L		93
40) 1,1,1-Trichloroethane	6.190	97	13250	1.0848 ug/L		90
42) 1,2-Dichloroethane	6.415	62	14915	1.0339 ug/L	#	89
43) 1,1-Dichloropropene	6.415	75	10804	1.0490 ug/L	#	88
44) Cyclohexane	6.470	56	12794	0.7804 ug/L		85
45) Carbon tetrachloride	6.537	117	8937	0.8869 ug/L		95
46) Benzene	6.579	78	32963	1.0357 ug/L		96
47) tert- Amyl Methyl Ether	6.786	73	21298	0.9217 ug/L	#	95
48) Trichloroethene	7.389	95	9661	1.1864 ug/L		92
49) 1,2-Dichloropropane	7.443	63	10808	1.0945 ug/L		96
50) Dibromomethane	7.565	93	6727	1.1257 ug/L		94
51) Methyl methacrylate	7.595	41	11411m	0.8995 ug/L		
52) 1,4-Dioxane	7.620	88	2955	22.4186 ug/L		87
53) Bromodichloromethane	7.626	83	12073	1.0467 ug/L		100
54) tert- Amyl Ethyl Ether	7.729	59	20776	0.8883 ug/L		90
55) Methyl cyclohexane	7.772	83	10005	0.8398 ug/L	#	83
56) 2-Chloroethyl vinyl ether	8.021	63	10529	1.7189 ug/L		96
57) 4-Methyl-2-pentanone	8.161	43	26788	1.8284 ug/L	#	86
58) cis-1,3-Dichloropropene	8.234	75	11273	0.9354 ug/L		97
61) trans-1,3-Dichloropropene	8.739	75	10811	0.8727 ug/L	#	78
62) Toluene	8.721	92	20014	1.0069 ug/L		98
63) 1,1,2-Trichloroethane	8.891	83	7080	0.9917 ug/L		94
64) Ethyl methacrylate	8.940	69	10988	0.9469 ug/L		82
65) 2-Hexanone	9.062	43	17074	1.6865 ug/L	#	91
66) 1,3-Dichloropropane	9.110	76	14644	1.0506 ug/L		96
67) Dibromochloromethane	9.366	129	8200	0.9568 ug/L		96
68) Tetrachloroethene	9.469	166	7581	0.9390 ug/L		98
69) 1,2-Dibromoethane	9.585	107	8956	1.0488 ug/L		94
70) 1-Chlorohexane	10.126	91	7286	0.7944 ug/L	#	3
71) Chlorobenzene	10.150	112	21414	0.9662 ug/L		96
72) 1,1,1,2-Tetrachloroethane	10.193	131	7298	0.9265 ug/L	#	1
73) Ethylbenzene	10.303	91	30605	0.8716 ug/L		94
74) m,p-Xylene	10.418	91	50836	1.8099 ug/L		96
75) Styrene	10.795	104	17291	0.7813 ug/L		95
76) o-Xylene	10.814	91	26698	0.8726 ug/L		94
77) Bromoform	10.887	173	4646	0.8444 ug/L		90
78) Isopropylbenzene	11.221	105	26046	0.8073 ug/L		94
79) 1,2,3-Trichloropropane	11.282	110	4631	1.2104 ug/L	#	57
82) cis-1,4-Dichloro-2-butene	10.996	53	3016	0.8210 ug/L		94
83) 1,1,2,2-Tetrachloroethane	11.160	83	11277	1.0691 ug/L		96
84) trans-1,4-Dichloro-2-b...	11.319	53	4295	1.1849 ug/L	#	1
85) Bromobenzene	11.489	156	9462	1.0302 ug/L		97
86) n-Propylbenzene	11.635	91	32916	0.8722 ug/L		98
87) 2-Chlorotoluene	11.714	91	23952	0.9631 ug/L		99
88) 4-Chlorotoluene	11.781	91	22418	0.9088 ug/L		98
89) 1,3,5-Trimethylbenzene	11.823	105	22035	0.7638 ug/L		91
90) tert-Butylbenzene	12.158	119	25269	0.8783 ug/L		98
91) 1,2,4-Trimethylbenzene	12.195	105	23679	0.7833 ug/L		97
92) sec-Butylbenzene	12.395	105	28206	0.8216 ug/L		99
93) 1,3-Dichlorobenzene	12.487	146	15651	0.9906 ug/L		99
94) 1,4-Dichlorobenzene	12.578	146	16393	1.0350 ug/L		96
95) p-Isopropyltoluene	12.541	119	22926	0.7668 ug/L	#	86

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL2.D
Acq On : 16 Oct 2014 1:46 pm
Operator :
Sample : SEQ-CAL2
Misc : 1
ALS Vial : 5 Sample Multiplier: 1

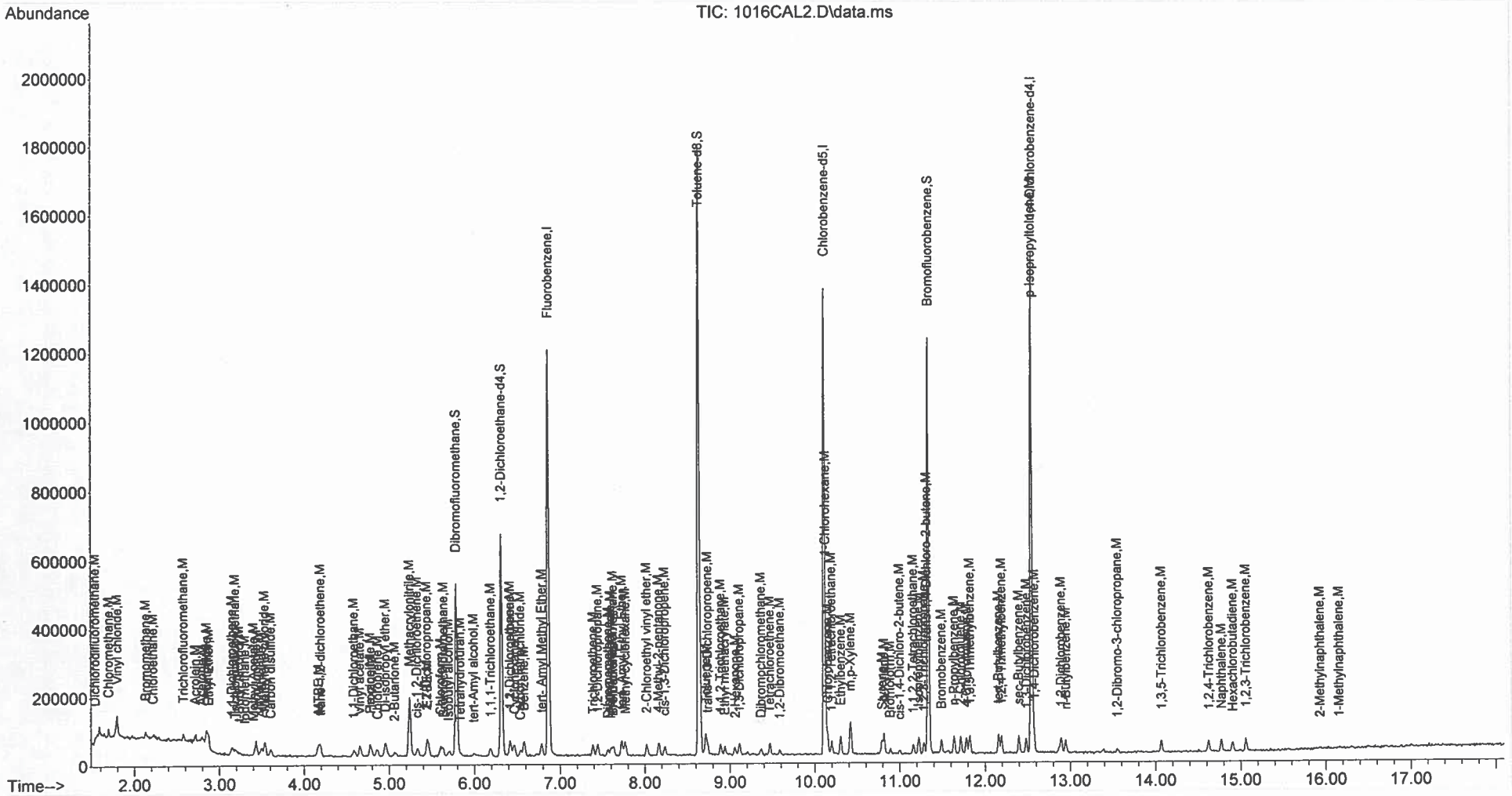
Quant Time: Oct 17 11:39:27 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:37:06 2014
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
96)	1,2-Dichlorobenzene	12.894	146	15540	0.9532 ug/L	95
97)	n-Butylbenzene	12.949	91	19117	0.7699 ug/L	89
98)	1,2-Dibromo-3-chloropr...	13.551	157	1701m	0.7417 ug/L	
99)	1,3,5-Trichlorobenzene	14.068	180	9358	0.8204 ug/L	98
100)	1,2,4-Trichlorobenzene	14.628	180	7896	0.7703 ug/L	97
101)	Naphthalene	14.774	128	24352	0.7542 ug/L	100
102)	Hexachlorobutadiene	14.908	225	3654	0.7425 ug/L #	68
103)	1,2,3-Trichlorobenzene	15.060	180	9531	0.8831 ug/L	92
104)	2-Methylnaphthalene	15.930	142	1538	0.0662 ug/L	90
105)	1-Methylnaphthalene	16.155	142	2006	0.0849 ug/L	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL2.D
Acq On : 16 Oct 2014 1:46 pm
Operator :
Sample : SEQ-CAL2
Misc : 1
ALS Vial : 5 Sample Multiplier: 1

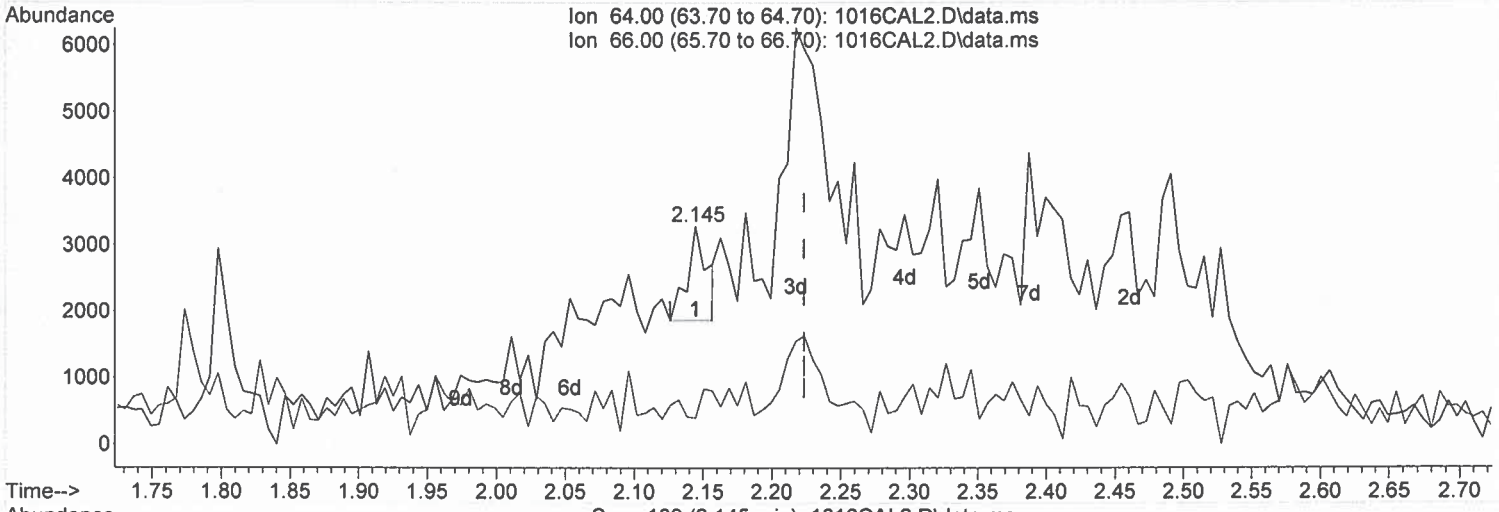
Quant Time: Oct 17 11:39:27 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:37:06 2014
Response via : Initial Calibration

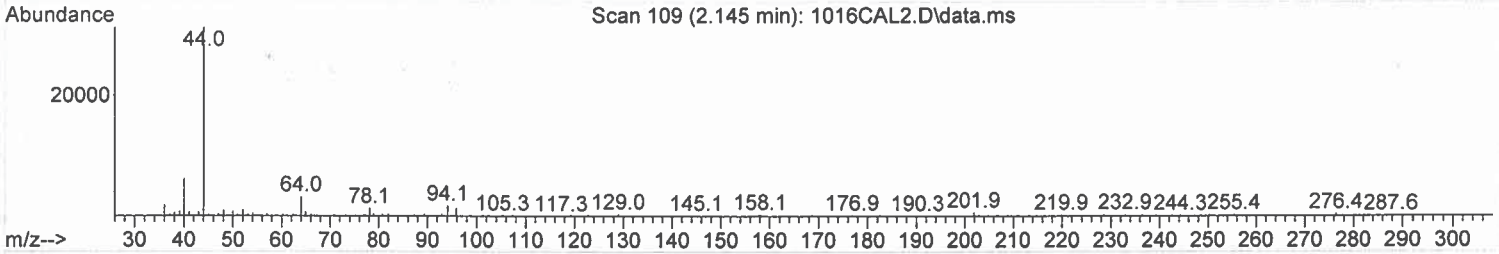


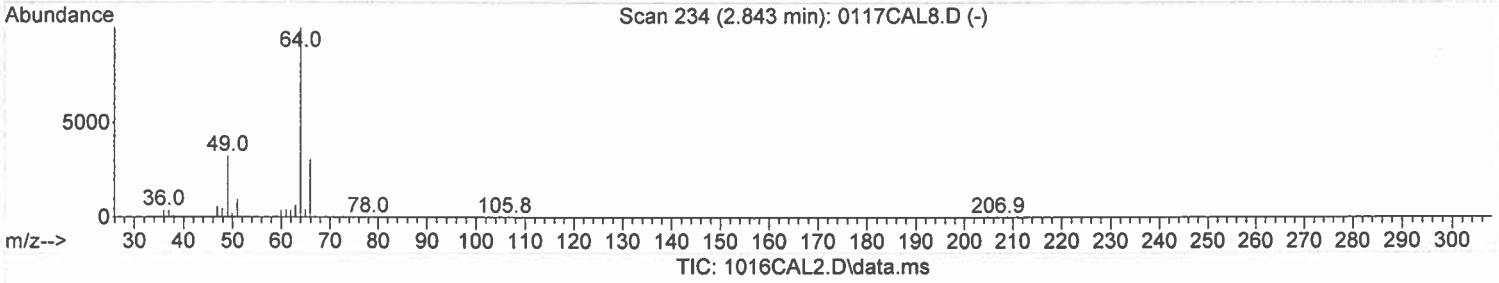
101614W3.M Tue Oct 21 13:09:37 2014

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL2.D
Acq On : 16 Oct 2014 1:46 pm
Operator :
Sample : SEQ-CAL2
Misc : 1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 17 11:37:17 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:37:06 2014
Response via : Initial Calibration







TIC: 1016CAL2.D\data.ms

(6) Chloroethane (M)

2.145min (-0.079) 0.29 ug/L

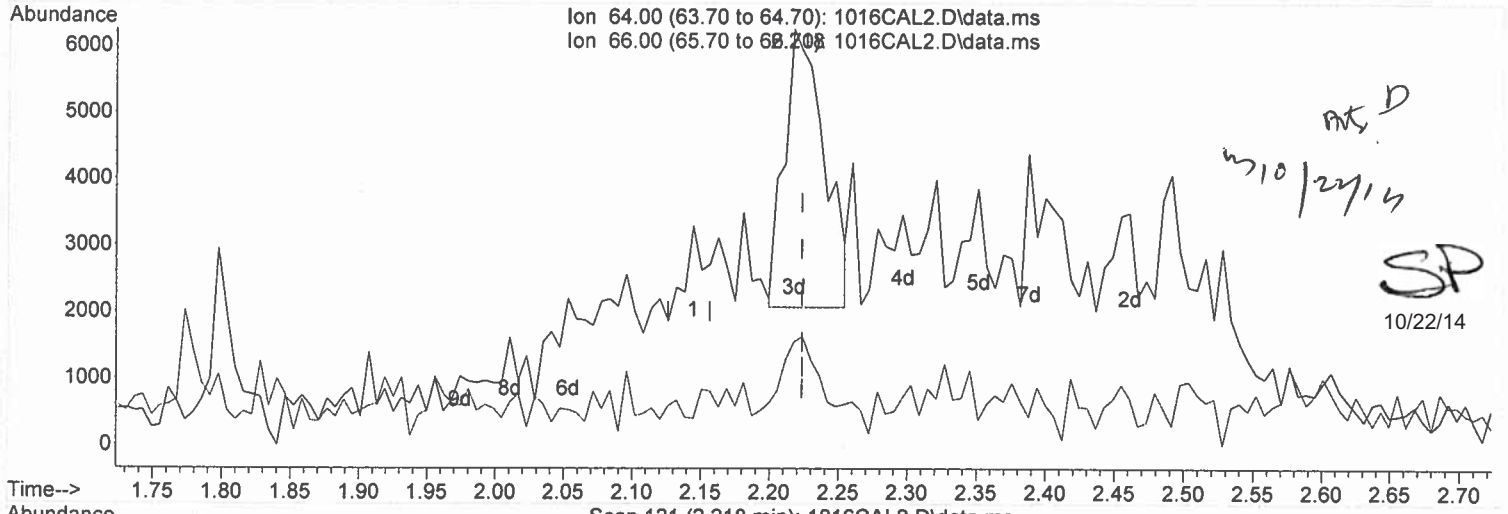
response 1453

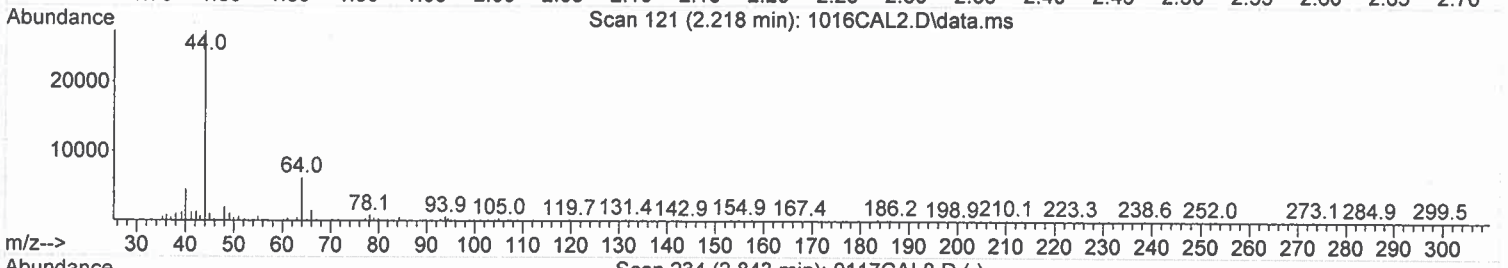
Ion	Exp%	Act%
64.00	100	100
66.00	30.70	25.46
0.00	0.00	0.00
0.00	0.00	0.00

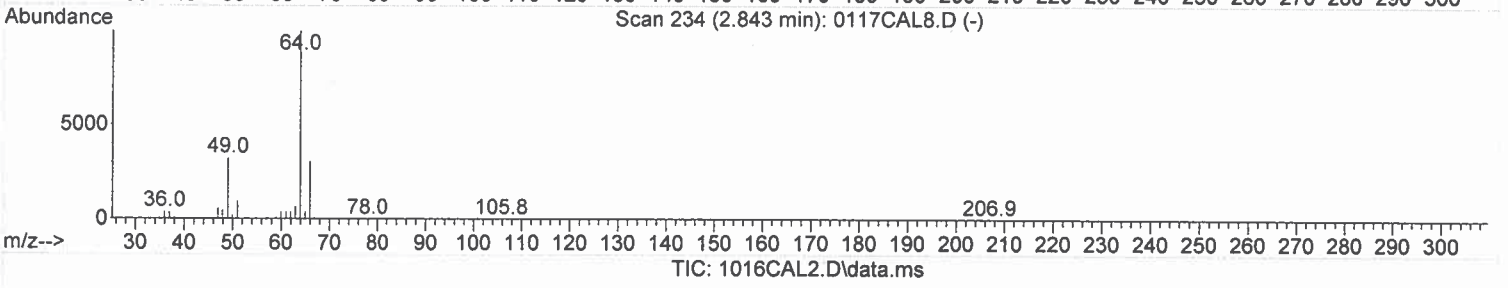
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL2.D
Acq On : 16 Oct 2014 1:46 pm
Operator :
Sample : SEQ-CAL2
Misc : 1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 17 11:37:17 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:37:06 2014
Response via : Initial Calibration







TIC: 1016CAL2.D\data.ms

(6) Chloroethane (M)

2.218min (-0.006) 1.65 ug/L m

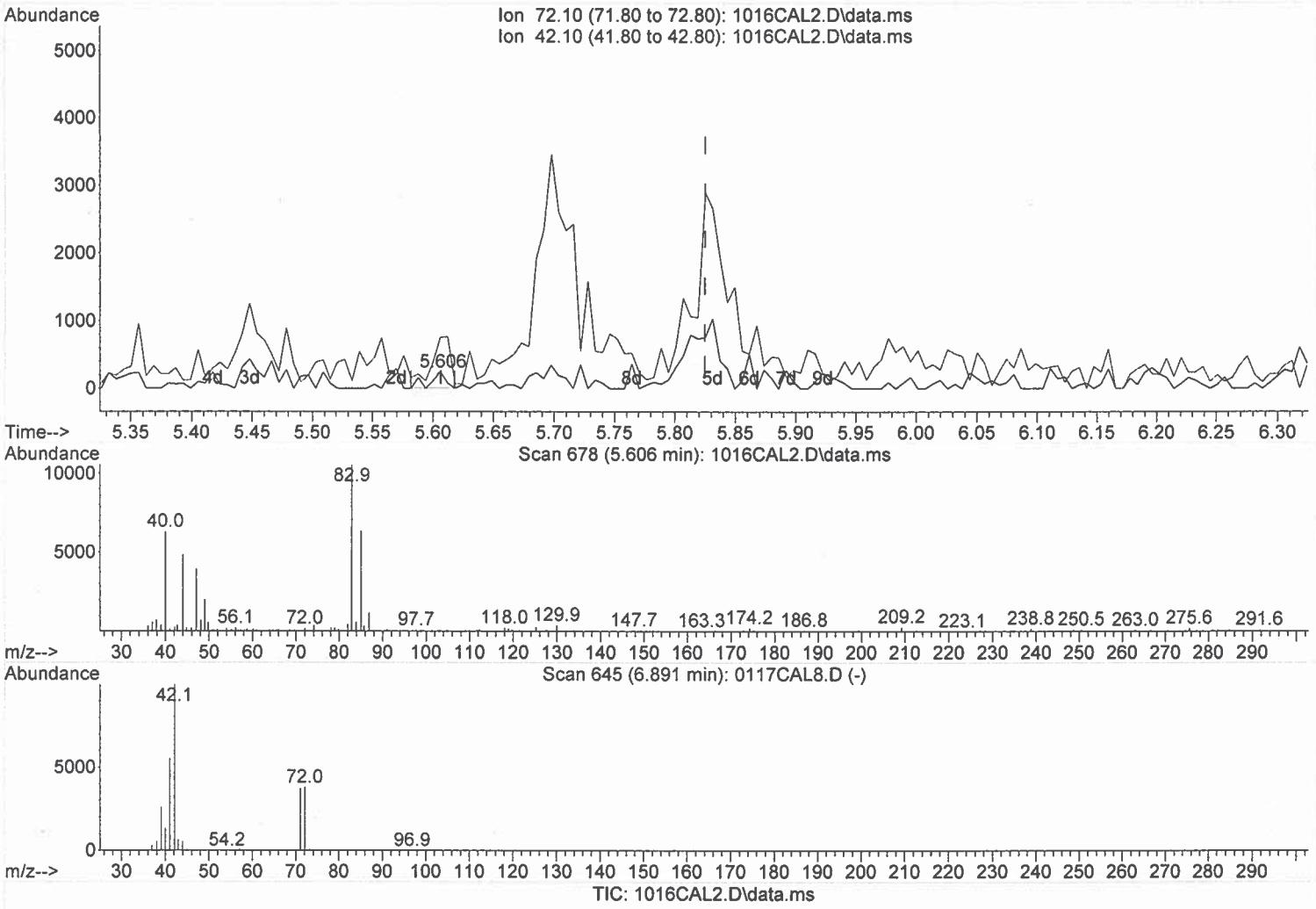
response 8393

Ion	Exp%	Act%
64.00	100	100
66.00	30.70	4.41#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL2.D
Acq On : 16 Oct 2014 1:46 pm
Operator :
Sample : SEQ-CAL2
Misc : 1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 17 11:37:17 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:37:06 2014
Response via : Initial Calibration



TIC: 1016CAL2.D\data.ms

(38) Tetrahydrofuran (M)

5.606min (-0.219) 0.15 ug/L

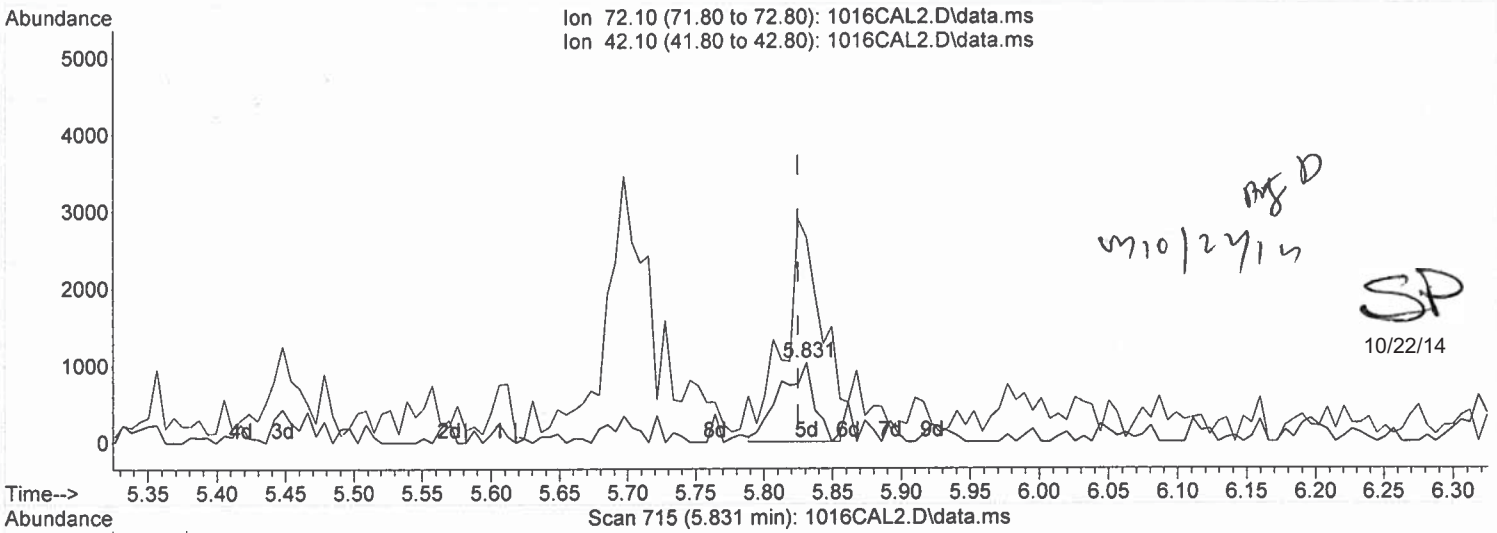
response 212

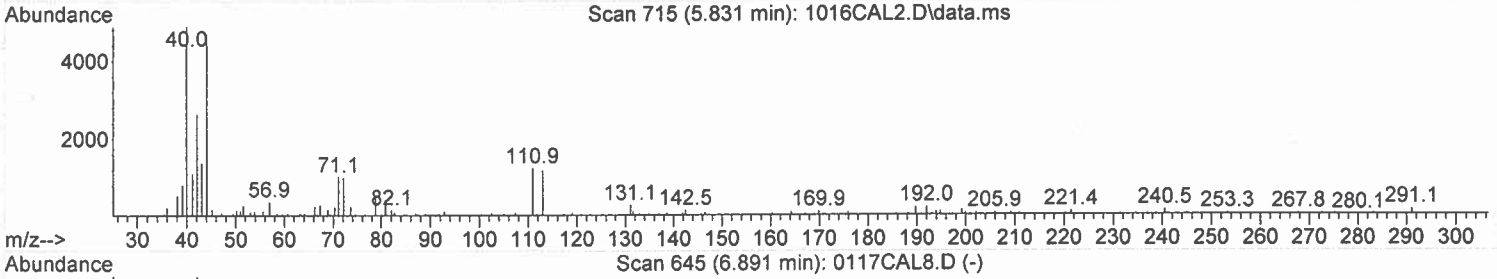
Ion	Exp%	Act%
72.10	100	100
42.10	360.60	294.34
0.00	0.00	0.00
0.00	0.00	0.00

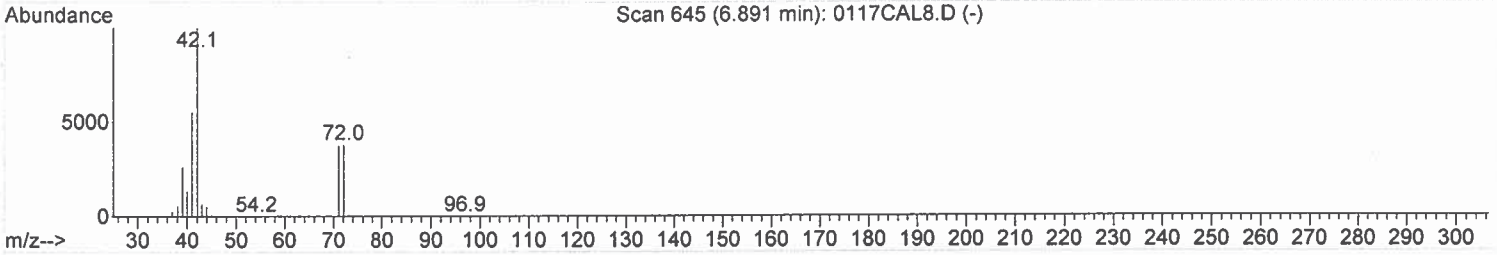
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL2.D
Acq On : 16 Oct 2014 1:46 pm
Operator :
Sample : SEQ-CAL2
Misc : 1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 17 11:37:17 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:37:06 2014
Response via : Initial Calibration







TIC: 1016CAL2.D\data.ms

(38) Tetrahydrofuran (M)

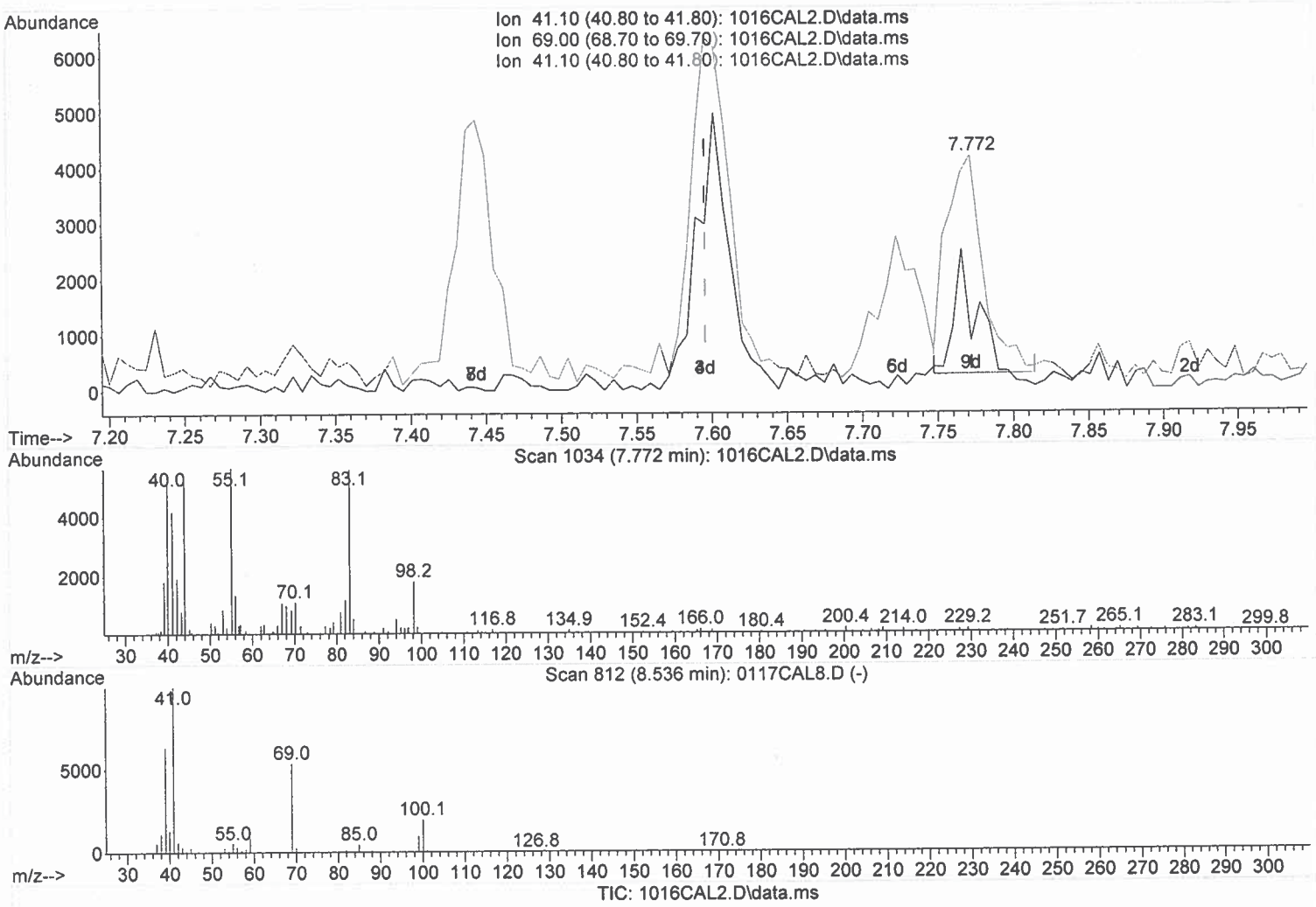
5.831min (+0.006) 1.33 ug/L m

response 1832

Ion	Exp%	Act%
72.10	100	100
42.10	360.60	34.06#
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL2.D
Acq On : 16 Oct 2014 1:46 pm
Operator :
Sample : SEQ-CAL2
Misc : 1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 17 11:37:17 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:37:06 2014
Response via : Initial Calibration



(51) Methyl methacrylate (M)

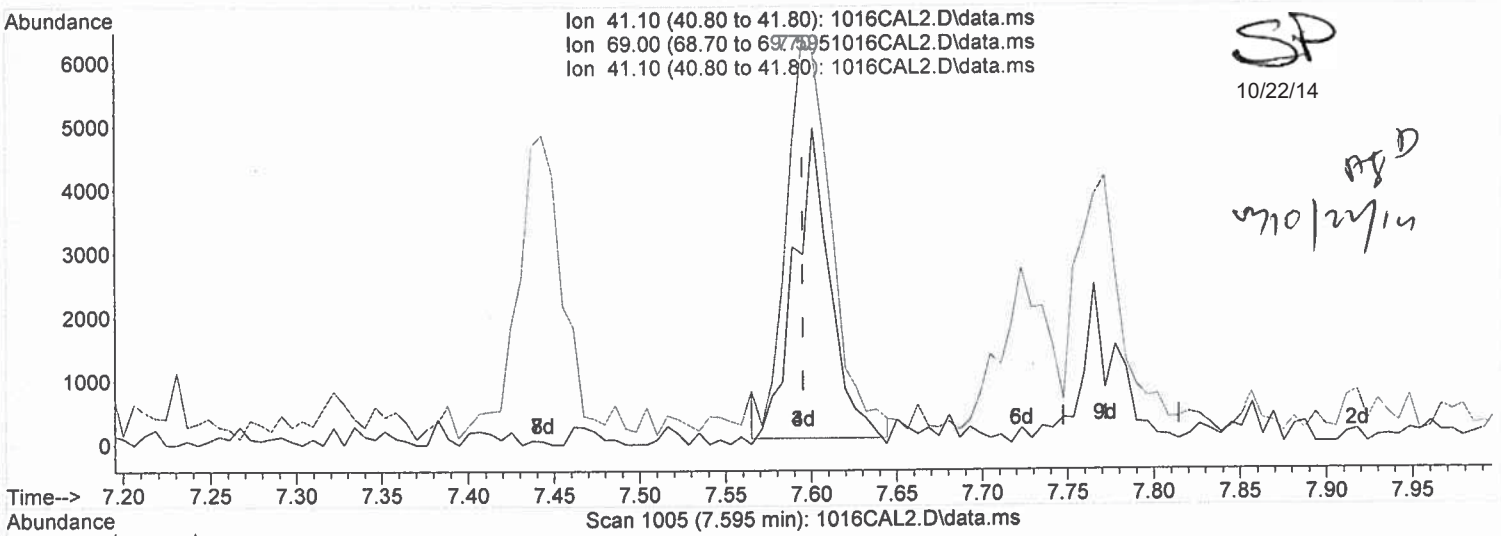
7.772min (+0.177) 0.52 ug/L

response 6656

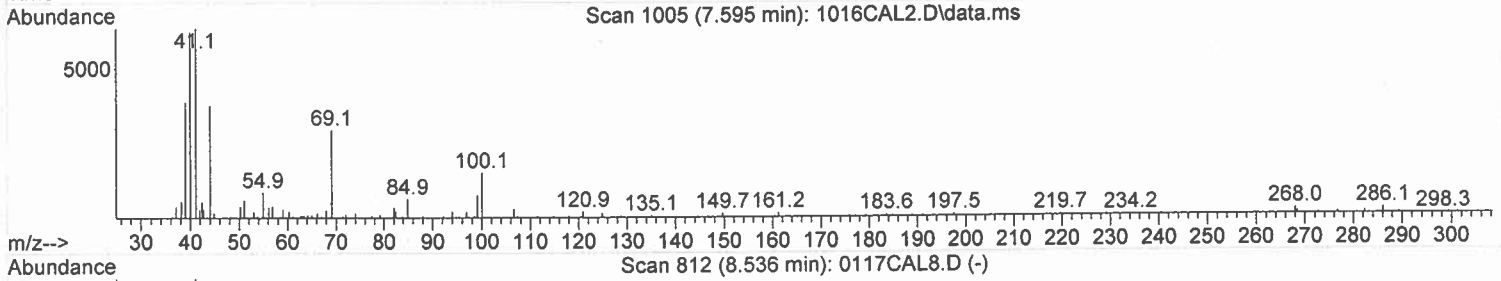
Ion	Exp%	Act%
41.10	100	100
69.00	52.30	53.03
41.10	100.00	100.00
0.00	0.00	0.00

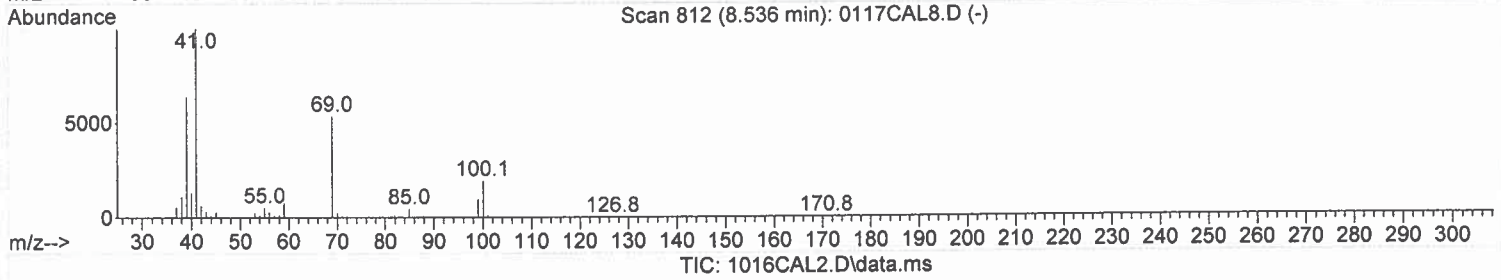
Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL2.D
Acq On : 16 Oct 2014 1:46 pm
Operator :
Sample : SEQ-CAL2
Misc : 1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 17 11:37:17 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:37:06 2014
Response via : Initial Calibration



SP
10/22/14





TIC: 1016CAL2.D\data.ms

(51) Methyl methacrylate (M)

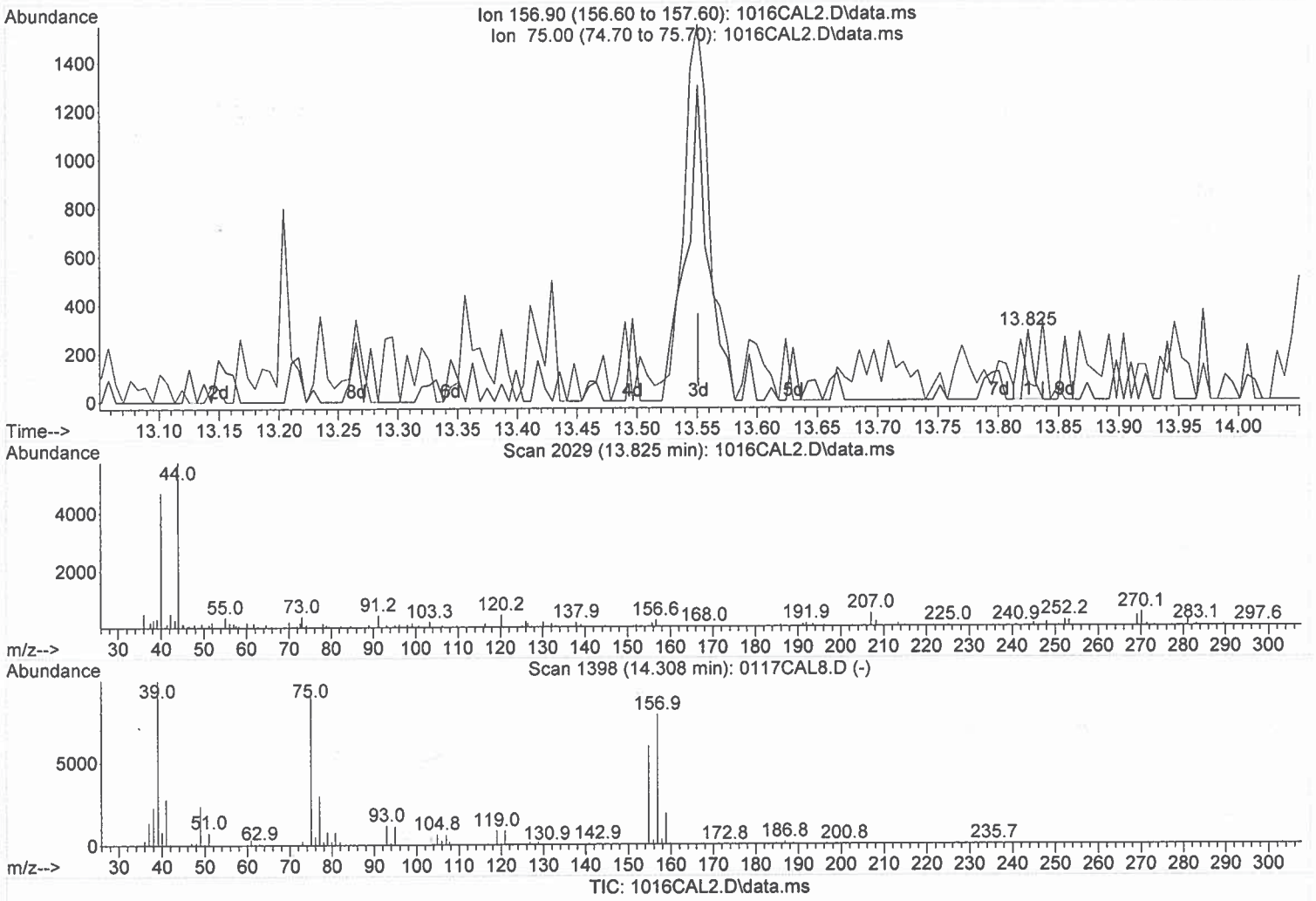
7.595min (+0.000) 0.90 ug/L m

response 11411

Ion	Exp%	Act%
41.10	100	100
69.00	52.30	30.94#
41.10	100.00	58.33#
0.00	0.00	0.00

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL2.D
Acq On : 16 Oct 2014 1:46 pm
Operator :
Sample : SEQ-CAL2
Misc : 1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 17 11:37:17 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:37:06 2014
Response via : Initial Calibration



(98) 1,2-Dibromo-3-chloropropane (M)

13.825min (+0.274) 0.06 ug/L

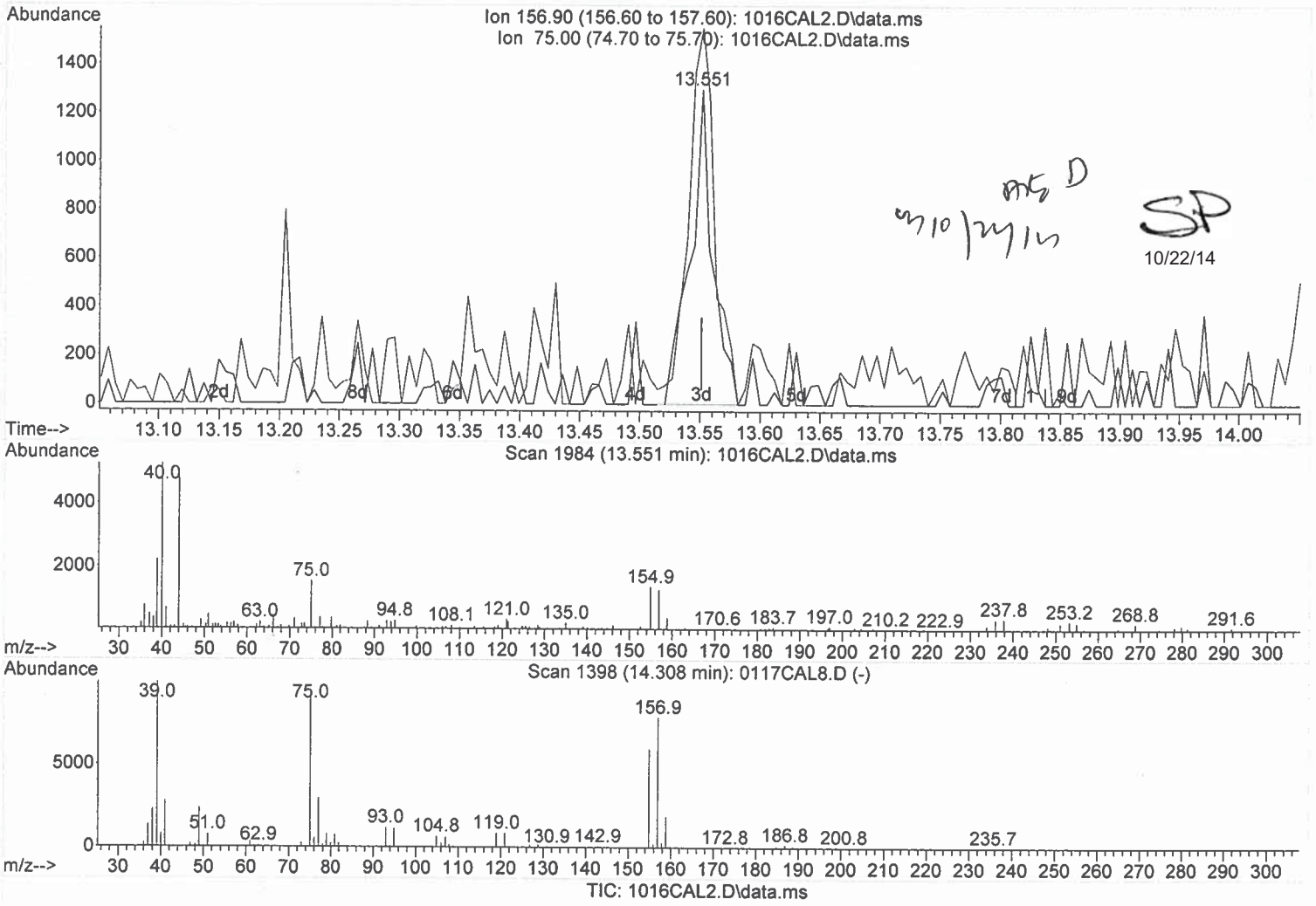
response 131

Ion	Exp%	Act%
156.90	100	100
75.00	94.20	106.11
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL2.D
Acq On : 16 Oct 2014 1:46 pm
Operator :
Sample : SEQ-CAL2
Misc : 1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 17 11:37:17 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:37:06 2014
Response via : Initial Calibration



TIC: 1016CAL2.D\data.ms

(98) 1,2-Dibromo-3-chloropropane (M)

13.551min (+0.000) 0.74 ug/L m

response 1701

Ion	Exp%	Act%
156.90	100	100
75.00	94.20	8.17#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL3.D
Acq On : 16 Oct 2014 2:11 pm
Operator :
Sample : SEQ-CAL3
Misc : 1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 17 11:36:43 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:08:49 2014
Response via : Initial Calibration

10/10/2014

SP 10/22/14

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	6.865	96	860199	30.00	ug/L		0.00
59) Chlorobenzene-d5	10.114	82	341519	30.00	ug/L		0.00
81) 1,4-Dichlorobenzene-d4	12.547	152	316403	30.00	ug/L	#	0.00
System Monitoring Compounds							
37) Dibromofluoromethane	5.788	111	325238	42.68	ug/L		0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 142.27%#				
41) 1,2-Dichloroethane-d4	6.318	102	77866	42.17	ug/L		0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 140.57%#				
60) Toluene-d8	8.636	98	1086033	39.67	ug/L		0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 132.23%#				
80) Bromofluorobenzene	11.337	95	389330	37.82	ug/L		0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 126.07%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.536	85	14923	1.9922	ug/L		99
3) Chloromethane	1.694	50	29622	2.4846	ug/L		95
4) Vinyl chloride	1.798	62	13274	1.7883	ug/L		94
5) Bromomethane	2.132	94	11656	2.8170	ug/L		98
6) Chloroethane	2.223	64	10745	2.1081	ug/L		91
7) Trichlorofluoromethane	2.582	101	21937	2.0301	ug/L		96
8) Acrolein	2.716	56	21076	11.1043	ug/L		95
9) Acetone	2.801	43	23678	4.6012	ug/L		98
10) Acetonitrile	2.856	41	50282	22.3416	ug/L		96
11) Ethyl Ether	2.868	59	15940	1.9745	ug/L		93
12) 1,1-Dichloroethene	3.154	96	13755	1.9649	ug/L		92
13) Trichlorotrifluoroethane	3.185	101	13966	2.0064	ug/L		98
14) Iodomethane	3.318	142	8955	1.2318	ug/L	#	92
15) t-Butyl Alcohol	3.239	59	11500	8.9627	ug/L	#	43
16) Methyl Acetate	3.404	43	25989m	1.8528	ug/L		
17) Acrylonitrile	3.434	53	54340	9.9336	ug/L		95
18) Allyl chloride	3.495	76	8372	2.1151	ug/L		90
19) Methylene chloride	3.531	84	21042	2.3783	ug/L		91
20) Carbon disulfide	3.611	76	47328	2.3107	ug/L	#	92
21) trans-1,2-dichloroethene	4.195	96	14676	1.9859	ug/L		88
22) MTBE	4.164	73	50937	2.0415	ug/L		93
23) 1,1-Dichloroethane	4.590	63	34358	2.0483	ug/L		94
24) Vinyl acetate	4.657	43	96718	3.6004	ug/L		100
25) Propionitrile	4.779	54	41258	19.5177	ug/L	#	89
26) Hexane	4.785	57	14386	1.6714	ug/L	#	85
27) Chloroprene	4.858	53	27258	1.7194	ug/L	#	94
28) Di-isopropyl ether	4.955	45	77970	1.9686	ug/L		98
29) 2-Butanone	5.058	43	31537	4.0098	ug/L		93
30) Methacrylonitrile	5.241	41	187389	19.9932	ug/L		98
31) cis-1,2-Dichloroethene	5.338	96	15911	1.8949	ug/L		86
32) 2,2-Dichloropropane	5.448	77	22108	1.9043	ug/L	#	91
33) ETBE	5.460	59	61264	2.0176	ug/L		97
34) Chloroform	5.606	83	31813	2.1208	ug/L		95
35) Bromochloromethane	5.636	128	9739	2.1856	ug/L		92
36) Isobutyl alcohol	5.697	42	13371	34.3008	ug/L		92
38) Tetrahydrofuran	5.825	72	2705m	1.8951	ug/L		

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL3.D
Acq On : 16 Oct 2014 2:11 pm
Operator :
Sample : SEQ-CAL3
Misc : 1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 17 11:36:43 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:08:49 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39) tert-Amyl alcohol	5.995	59	8281	8.4481 ug/L #	88
40) 1,1,1-Trichloroethane	6.196	97	26322	2.1709 ug/L	97
42) 1,2-Dichloroethane	6.415	62	31629	2.2222 ug/L #	97
43) 1,1-Dichloropropene	6.421	75	20783	2.0105 ug/L	94
44) Cyclohexane	6.464	56	28514	1.7055 ug/L	92
45) Carbon tetrachloride	6.549	117	18686	1.8344 ug/L	94
46) Benzene	6.579	78	61828	1.9377 ug/L	97
47) tert- Amyl Methyl Ether	6.780	73	43208	1.8291 ug/L	93
48) Trichloroethene	7.388	95	17078	2.1278 ug/L	93
49) 1,2-Dichloropropane	7.443	63	19743	1.9885 ug/L	89
50) Dibromomethane	7.565	93	12636	2.1312 ug/L	99
51) Methyl methacrylate	7.595	41	22915	1.7807 ug/L	100
52) 1,4-Dioxane	7.620	88	5306	39.7477 ug/L #	95
53) Bromodichloromethane	7.626	83	24772	2.1781 ug/L	91
54) tert- Amyl Ethyl Ether	7.723	59	43753	1.8312 ug/L	97
55) Methyl cyclohexane	7.766	83	20669	1.7069 ug/L	96
56) 2-Chloroethyl vinyl ether	8.021	63	21460	3.3247 ug/L	95
57) 4-Methyl-2-pentanone	8.161	43	58776	3.9767 ug/L #	89
58) cis-1,3-Dichloropropene	8.234	75	23389	1.9003 ug/L	99
61) trans-1,3-Dichloropropene	8.733	75	22041	1.7595 ug/L	91
62) Toluene	8.721	92	38424	1.9473 ug/L	99
63) 1,1,2-Trichloroethane	8.891	83	15231	2.2029 ug/L	94
64) Ethyl methacrylate	8.946	69	18676	1.6063 ug/L	91
65) 2-Hexanone	9.055	43	38446	3.7900 ug/L #	88
66) 1,3-Dichloropropane	9.110	76	28132	2.0607 ug/L	97
67) Dibromochloromethane	9.366	129	15703	1.8447 ug/L	94
68) Tetrachloroethene	9.469	166	16246	2.0777 ug/L	94
69) 1,2-Dibromoethane	9.585	107	16305	1.9334 ug/L	94
70) 1-Chlorohexane	10.132	91	14910	1.6178 ug/L #	54
71) Chlorobenzene	10.150	112	44701	2.0575 ug/L	90
72) 1,1,1,2-Tetrachloroethane	10.199	131	15257	1.9675 ug/L #	1
73) Ethylbenzene	10.302	91	66200	1.9103 ug/L	92
74) m,p-Xylene	10.418	91	104144	3.7394 ug/L	97
75) Styrene	10.789	104	36743	1.6541 ug/L	98
76) o-Xylene	10.813	91	54951	1.8081 ug/L	98
77) Bromoform	10.893	173	10733	1.9863 ug/L	98
78) Isopropylbenzene	11.221	105	57759	1.8056 ug/L	98
79) 1,2,3-Trichloropropane	11.288	110	8092	2.1725 ug/L #	74
82) cis-1,4-Dichloro-2-butene	10.996	53	7110	1.7813 ug/L #	82
83) 1,1,2,2-Tetrachloroethane	11.154	83	22211	2.0472 ug/L	90
84) trans-1,4-Dichloro-2-b...	11.318	53	6387	1.6406 ug/L #	1
85) Bromobenzene	11.489	156	17659	1.8644 ug/L	95
86) n-Propylbenzene	11.635	91	67839	1.7364 ug/L	100
87) 2-Chlorotoluene	11.714	91	49026	1.9225 ug/L	97
88) 4-Chlorotoluene	11.781	91	45713	1.7938 ug/L	98
89) 1,3,5-Trimethylbenzene	11.817	105	51956	1.7316 ug/L	100
90) tert-Butylbenzene	12.164	119	54586	1.8160 ug/L	97
91) 1,2,4-Trimethylbenzene	12.194	105	50733	1.6013 ug/L	98
92) sec-Butylbenzene	12.395	105	60758	1.6936 ug/L	99
93) 1,3-Dichlorobenzene	12.480	146	32295	2.0097 ug/L	99
94) 1,4-Dichlorobenzene	12.578	146	32716	2.0313 ug/L	97
95) p-Isopropyltoluene	12.541	119	50181	1.5988 ug/L	95

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL3.D
Acq On : 16 Oct 2014 2:11 pm
Operator :
Sample : SEQ-CAL3
Misc : 1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 17 11:36:43 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:08:49 2014
Response via : Initial Calibration

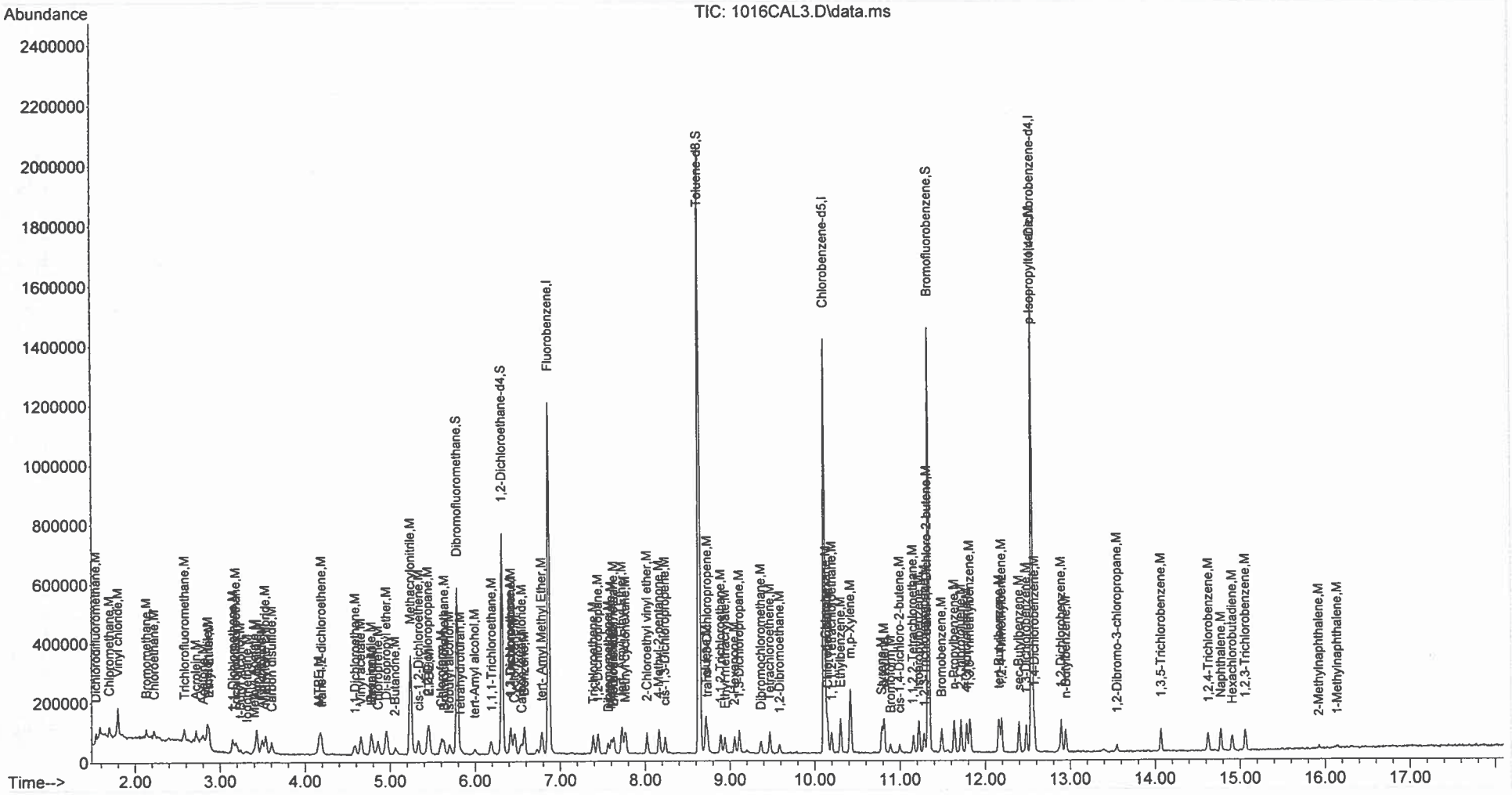
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
96)	1,2-Dichlorobenzene	12.894	146	34872	2.1012	ug/L	95
97)	n-Butylbenzene	12.949	91	36796	1.4218	ug/L	96
98)	1,2-Dibromo-3-chloropr...	13.551	157	4408	1.8239	ug/L	91
99)	1,3,5-Trichlorobenzene	14.068	180	19587	1.6549	ug/L	98
100)	1,2,4-Trichlorobenzene	14.628	180	17029	1.6079	ug/L	94
101)	Naphthalene	14.774	128	51158	1.5153	ug/L	100
102)	Hexachlorobutadiene	14.908	225	9577	1.9234	ug/L	94
103)	1,2,3-Trichlorobenzene	15.060	180	18029	1.6220	ug/L	95
104)	2-Methylnaphthalene	15.924	142	3554m	0.1188	ug/L	
105)	1-Methylnaphthalene	16.143	142	3361	0.1107	ug/L	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL3.D
Acq On : 16 Oct 2014 2:11 pm
Operator :
Sample : SEQ-CAL3
Misc : 1
ALS Vial : 6 Sample Multiplier: 1

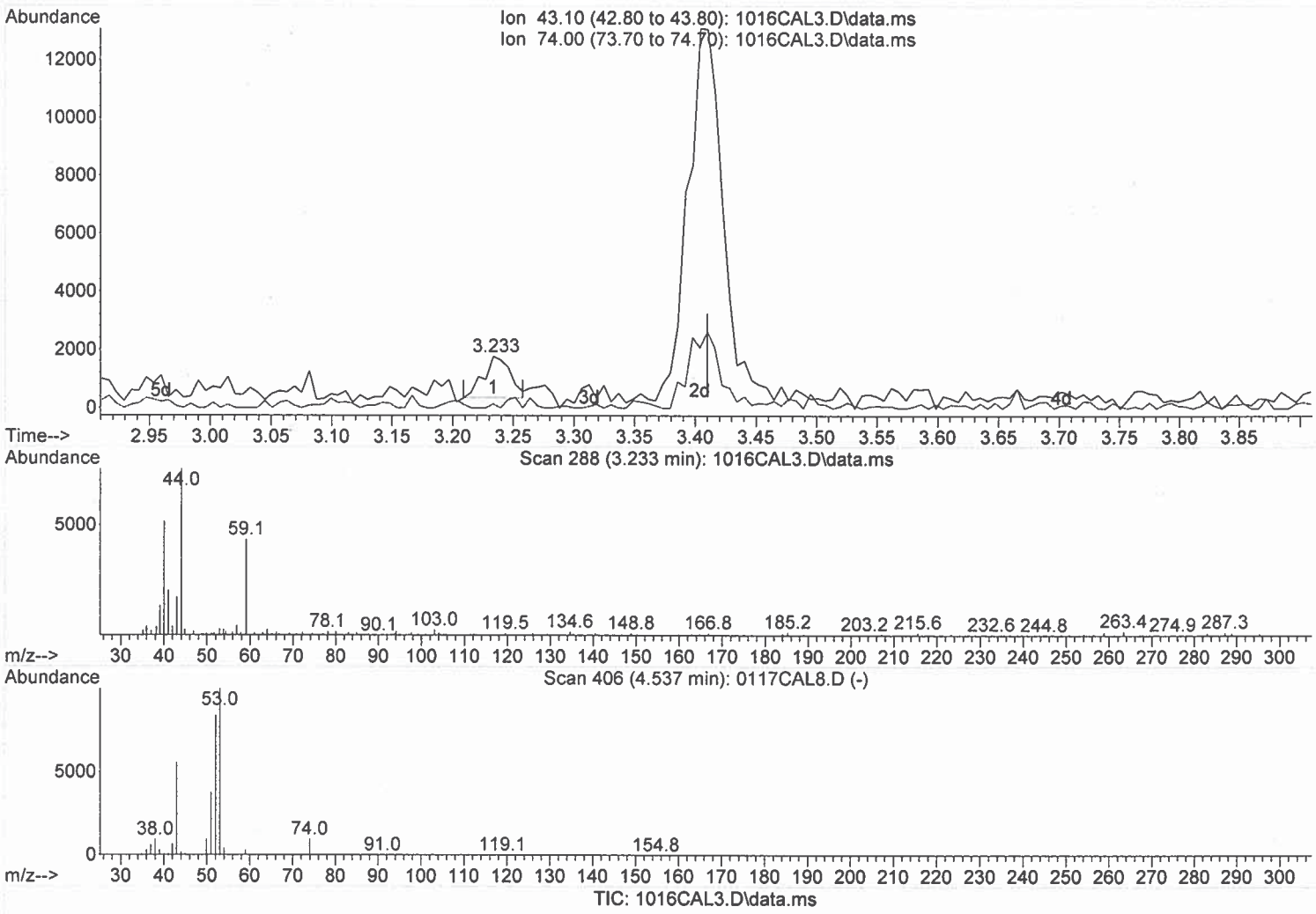
Quant Time: Oct 17 11:36:43 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:08:49 2014
Response via : Initial Calibration



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL3.D
Acq On : 16 Oct 2014 2:11 pm
Operator :
Sample : SEQ-CAL3
Misc : 1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 17 11:09:00 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:08:49 2014
Response via : Initial Calibration



TIC: 1016CAL3.D\data.ms

(16) Methyl Acetate (M)

3.233min (-0.176) 0.16 ug/L

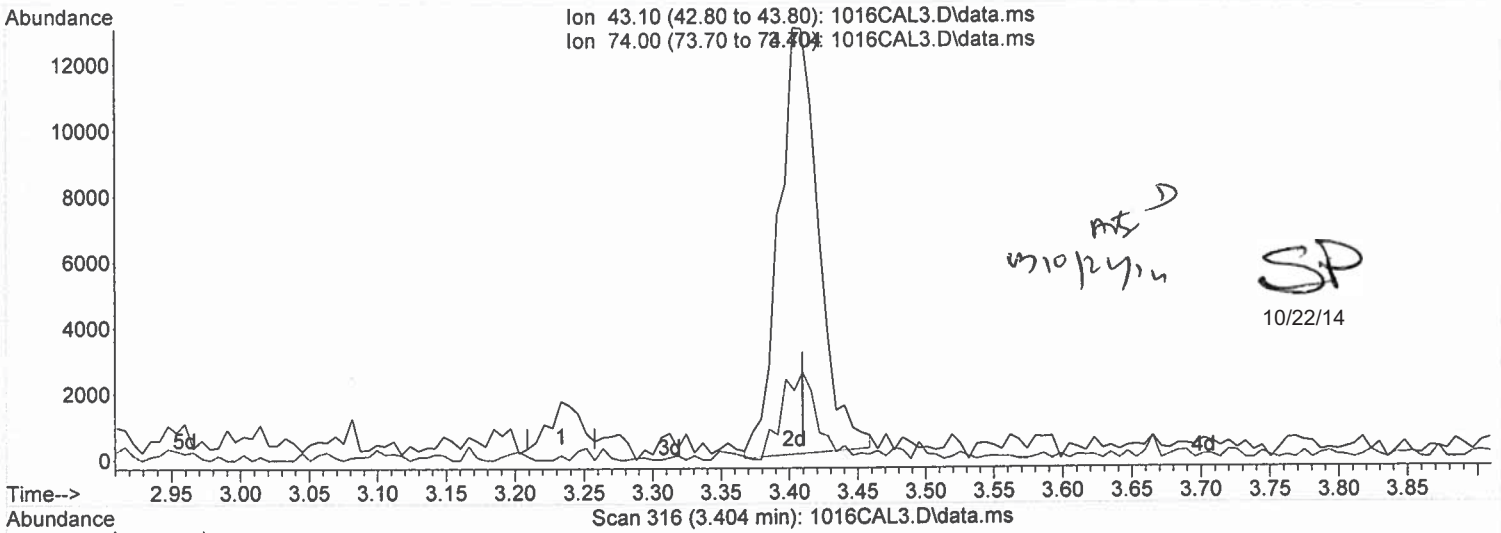
response 2193

Ion	Exp%	Act%
43.10	100	100
74.00	14.50	12.72
0.00	0.00	0.00
0.00	0.00	0.00

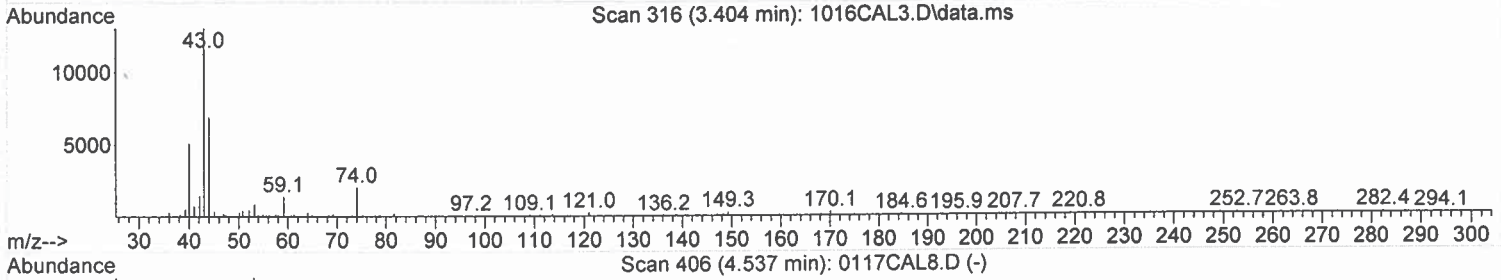
Quantitation Report (Qedit)

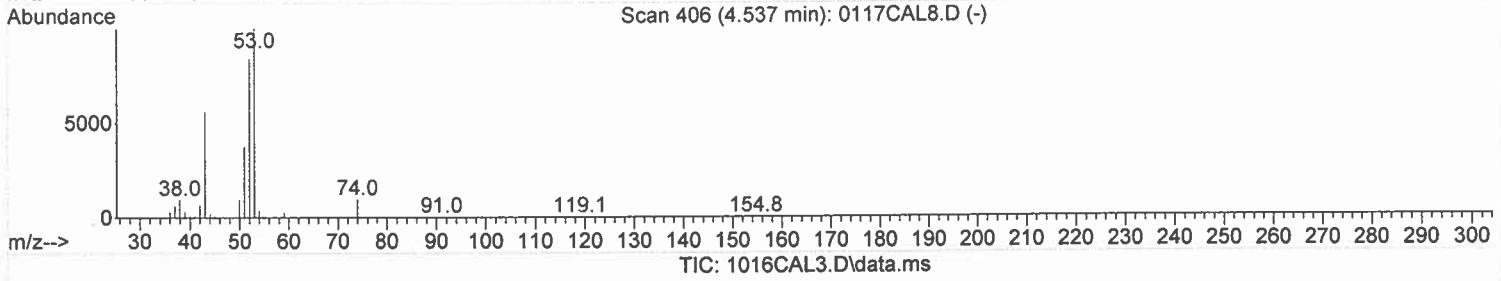
Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL3.D
Acq On : 16 Oct 2014 2:11 pm
Operator :
Sample : SEQ-CAL3
Misc : 1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 17 11:09:00 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:08:49 2014
Response via : Initial Calibration



10/22/14





(16) Methyl Acetate (M)

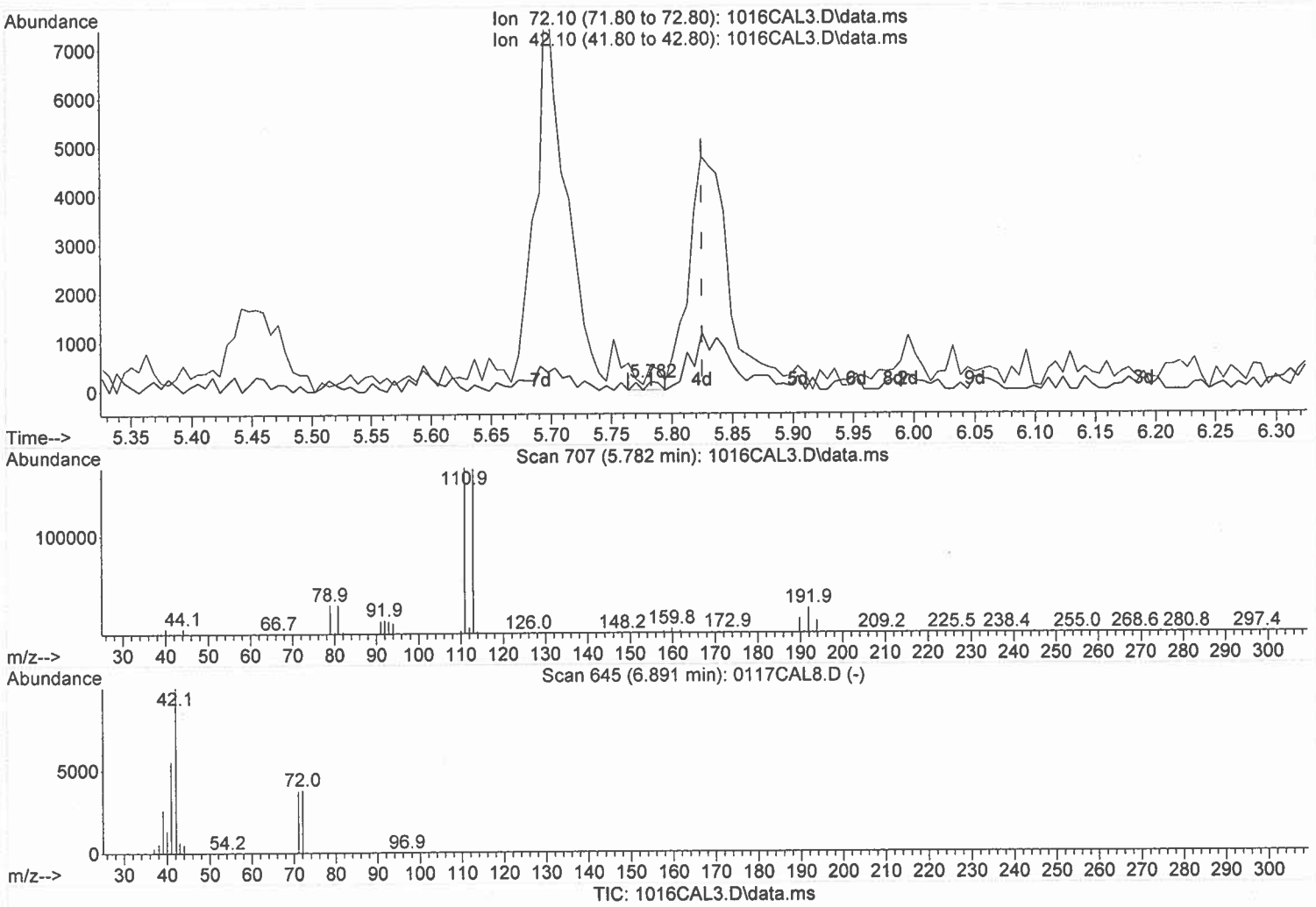
3.404min (-0.006) 1.85 ug/L m

response 25989

Ion	Exp%	Act%
43.10	100	100
74.00	14.50	1.07#
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL3.D
Acq On : 16 Oct 2014 2:11 pm
Operator :
Sample : SEQ-CAL3
Misc : 1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 17 11:09:00 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:08:49 2014
Response via : Initial Calibration



(38) Tetrahydrofuran (M)

5.782min (-0.043) 0.12 ug/L

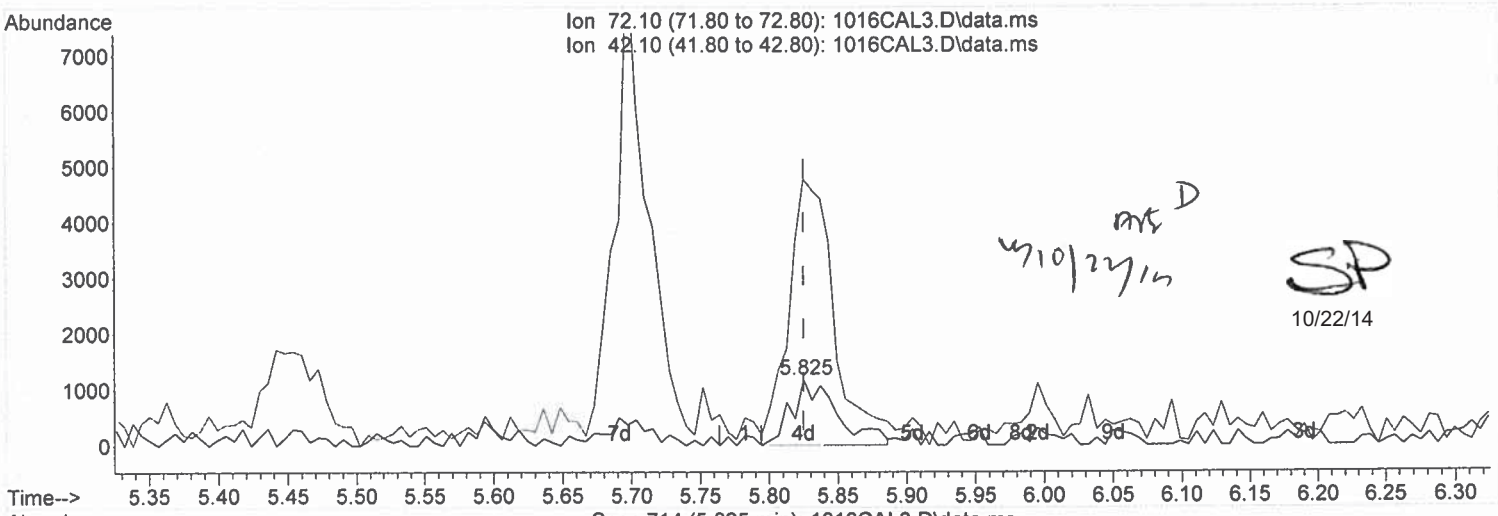
response 170

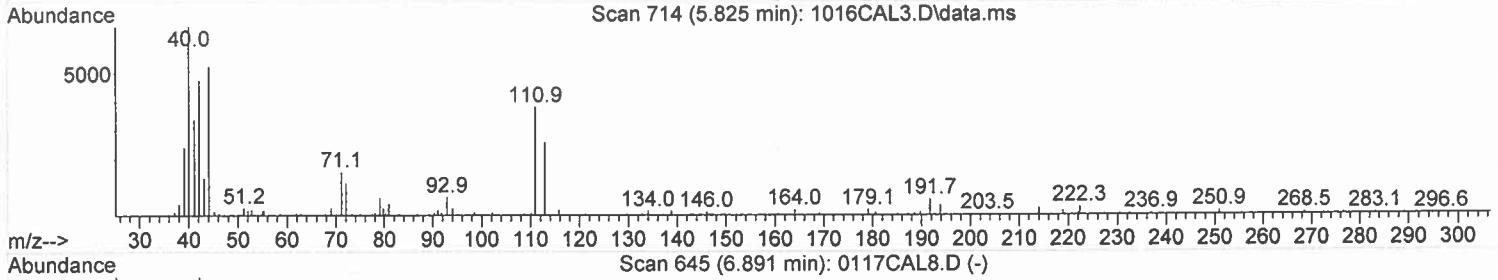
Ion	Exp%	Act%
72.10	100	100
42.10	360.60	395.29
0.00	0.00	0.00
0.00	0.00	0.00

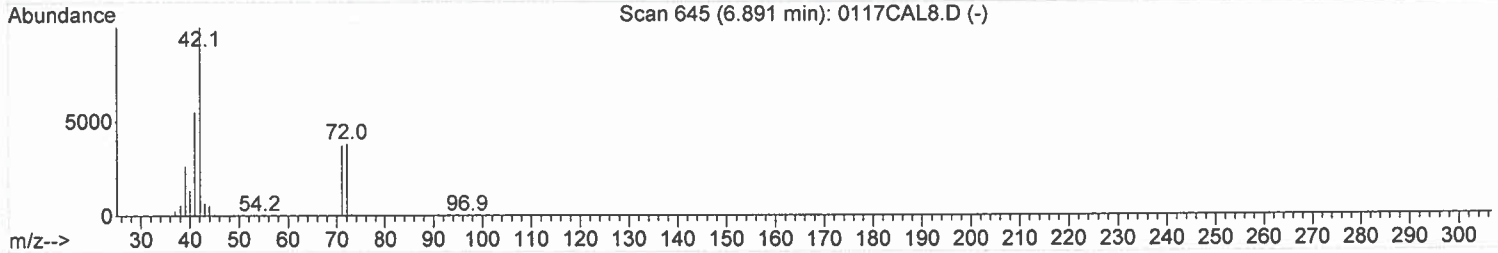
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL3.D
Acq On : 16 Oct 2014 2:11 pm
Operator :
Sample : SEQ-CAL3
Misc : 1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 17 11:09:00 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:08:49 2014
Response via : Initial Calibration







TIC: 1016CAL3.D\data.ms

(38) Tetrahydrofuran (M)

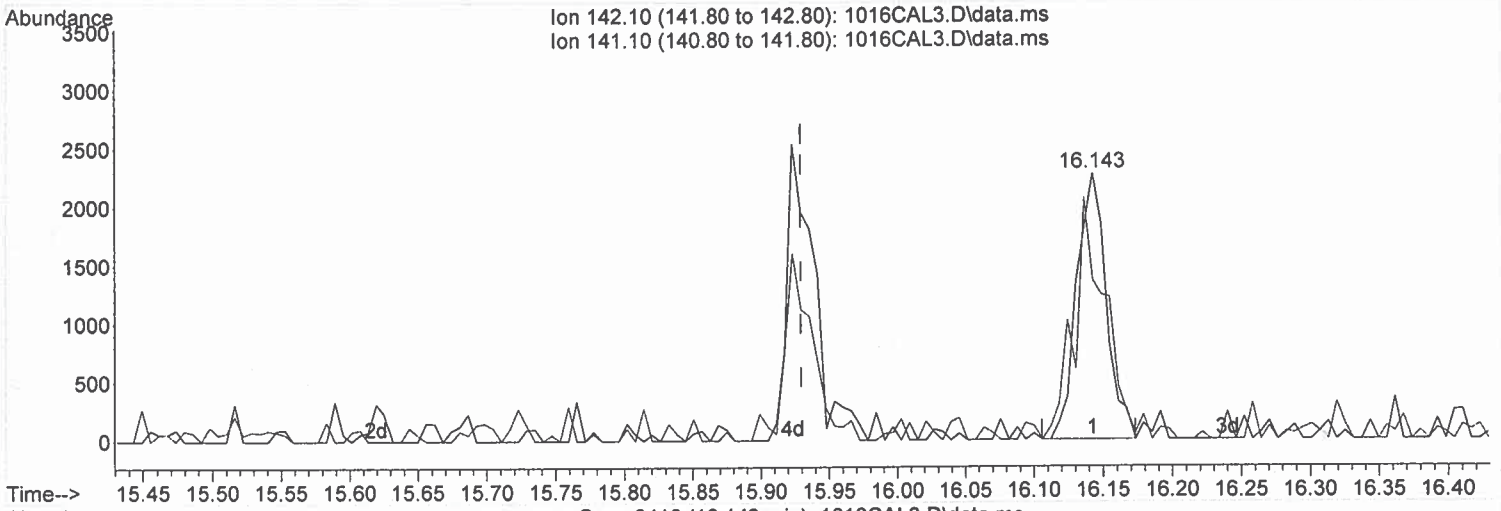
5.825min (-0.000) 1.90 ug/L m

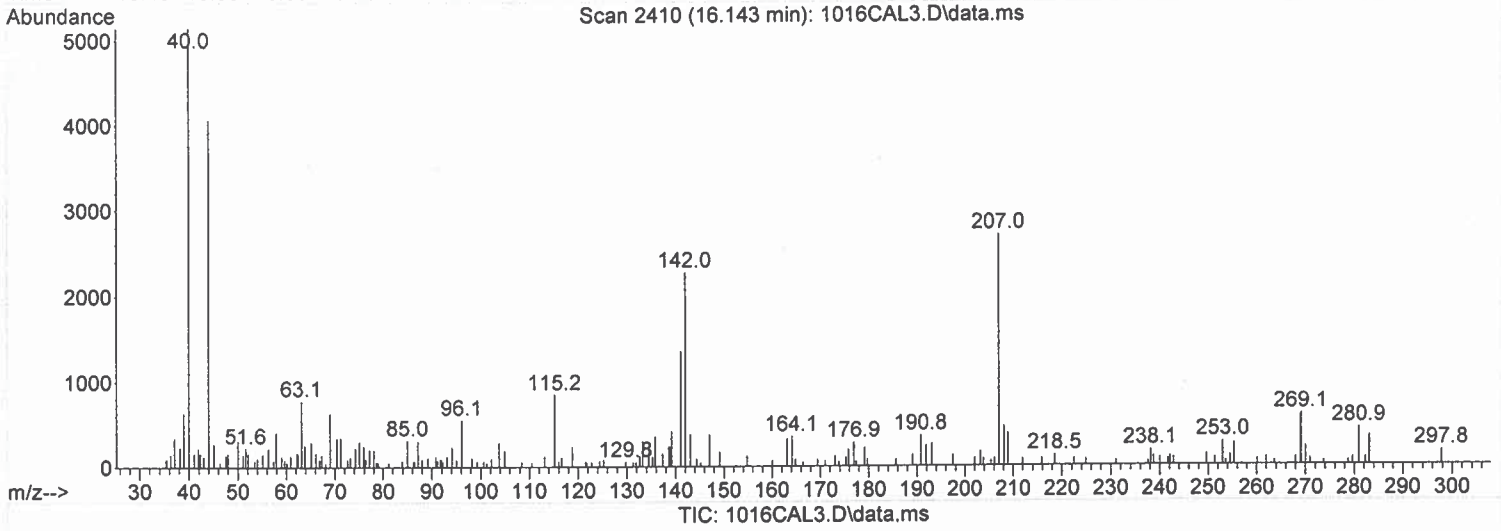
response 2705

Ion	Exp%	Act%
72.10	100	100
42.10	360.60	24.84#
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL3.D
Acq On : 16 Oct 2014 2:11 pm
Operator :
Sample : SEQ-CAL3
Misc : 1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 17 11:09:00 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:08:49 2014
Response via : Initial Calibration





TIC: 1016CAL3.D\data.ms

(104) 2-Methylnaphthalene (M)

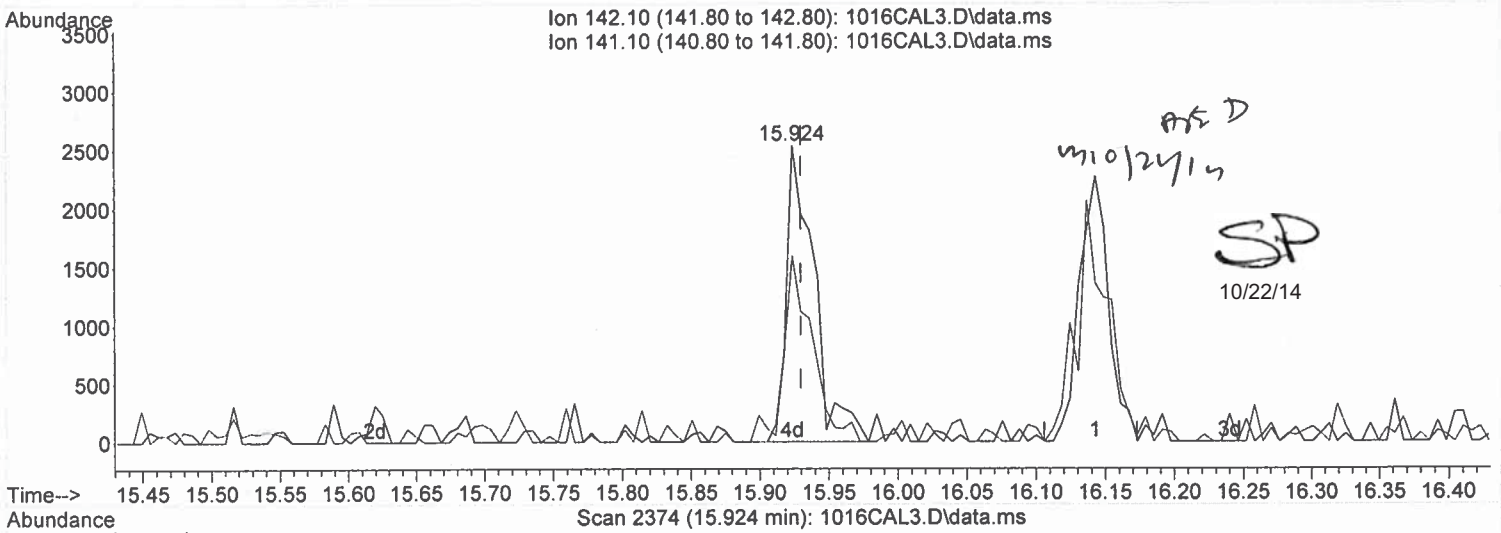
16.143min (+0.213) 0.11 ug/L

response 3361

Ion	Exp%	Act%
142.10	100	100
141.10	86.10	98.57
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL3.D
Acq On : 16 Oct 2014 2:11 pm
Operator :
Sample : SEQ-CAL3
Misc : 1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 17 11:09:00 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:08:49 2014
Response via : Initial Calibration



TIC: 1016CAL3.D\data.ms

(104) 2-Methylnaphthalene (M)

15.924min (-0.006) 0.12 ug/L m

response 3554

Ion	Exp%	Act%
142.10	100	100
141.10	86.10	93.22
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL4.D
Acq On : 16 Oct 2014 2:36 pm
Operator :
Sample : SEQ-CAL4
Misc : 1
ALS Vial : 7 Sample Multiplier: 1

MC 10/22/14

Quant Time: Oct 17 11:07:56 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:07:46 2014
Response via : Initial Calibration

SP 10/22/14

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorobenzene	6.865	96	844606	30.00 ug/L	0.00
59) Chlorobenzene-d5	10.114	82	336830	30.00 ug/L	0.00
81) 1,4-Dichlorobenzene-d4	12.547	152	324953	30.00 ug/L	# 0.00
System Monitoring Compounds					
37) Dibromofluoromethane	5.788	111	402726	54.52 ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 181.73%#		
41) 1,2-Dichloroethane-d4	6.318	102	100427	56.14 ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 187.13%#		
60) Toluene-d8	8.636	98	1361161	50.43 ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 168.10%#		
80) Bromofluorobenzene	11.337	95	503397	49.75 ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 165.83%#		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.536	85	33690	4.7349 ug/L	99
3) Chloromethane	1.694	50	60985	5.3683 ug/L	99
4) Vinyl chloride	1.798	62	36753	5.1591 ug/L	97
5) Bromomethane	2.132	94	22004	5.5854 ug/L	91
6) Chloroethane	2.223	64	26103	5.2951 ug/L	98
7) Trichlorofluoromethane	2.582	101	57878	5.6674 ug/L	97
8) Acrolein	2.716	56	51130	28.9173 ug/L	97
9) Acetone	2.795	43	51696	10.3481 ug/L	99
10) Acetonitrile	2.850	41	113280	51.6551 ug/L	96
11) Ethyl Ether	2.868	59	38362	4.8267 ug/L	95
12) 1,1-Dichloroethene	3.148	96	34950	5.2212 ug/L	98
13) Trichlorotrifluoroethane	3.191	101	37077	5.6375 ug/L	97
14) Iodomethane	3.318	142	25034	3.4315 ug/L	97
15) t-Butyl Alcohol	3.233	59	26583	20.8488 ug/L	89
16) Methyl Acetate	3.410	43	65748	4.7683 ug/L	98
17) Acrylonitrile	3.434	53	145398	27.4258 ug/L	98
18) Allyl chloride	3.495	76	18353	4.6887 ug/L	99
19) Methylene chloride	3.531	84	50504	6.0395 ug/L	94
20) Carbon disulfide	3.611	76	102141	5.1576 ug/L	98
21) trans-1,2-dichloroethene	4.188	96	38146	5.3562 ug/L	95
22) MTBE	4.170	73	123046	5.0234 ug/L	97
23) 1,1-Dichloroethane	4.584	63	89490	5.5104 ug/L	97
24) Vinyl acetate	4.657	43	247428	9.2447 ug/L	99
25) Propionitrile	4.779	54	108018	52.4384 ug/L	99
26) Hexane	4.785	57	34727	4.1068 ug/L	91
27) Chloroprene	4.858	53	73158	4.7281 ug/L	97
28) Di-isopropyl ether	4.955	45	196438	5.0778 ug/L	98
29) 2-Butanone	5.058	43	78858	10.3526 ug/L	100
30) Methacrylonitrile	5.241	41	485946	53.0657 ug/L	97
31) cis-1,2-Dichloroethene	5.338	96	43961	5.3845 ug/L	98
32) 2,2-Dichloropropane	5.448	77	53383	4.6910 ug/L	98
33) ETBE	5.454	59	150286	5.0053 ug/L	97
34) Chloroform	5.600	83	75609	5.2208 ug/L	96
35) Bromochloromethane	5.636	128	23286	5.3632 ug/L	94
36) Isobutyl alcohol	5.697	42	33991	86.5416 ug/L	94
38) Tetrahydrofuran	5.825	72	7239	5.1864 ug/L	70

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL4.D
Acq On : 16 Oct 2014 2:36 pm
Operator :
Sample : SEQ-CAL4
Misc : 1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 17 11:07:56 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:07:46 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
39) tert-Amyl alcohol	5.995	59	19675	19.9331	ug/L		88
40) 1,1,1-Trichloroethane	6.190	97	64367	5.5303	ug/L		98
42) 1,2-Dichloroethane	6.415	62	74680	5.4029	ug/L		97
43) 1,1-Dichloropropene	6.421	75	48314	4.8075	ug/L		97
44) Cyclohexane	6.464	56	75480	4.6302	ug/L		99
45) Carbon tetrachloride	6.543	117	50124	5.0613	ug/L		93
46) Benzene	6.585	78	163208	5.2746	ug/L		97
47) tert- Amyl Methyl Ether	6.786	73	107917	4.5918	ug/L	#	92
48) Trichloroethene	7.382	95	39653	5.0986	ug/L		98
49) 1,2-Dichloropropane	7.443	63	50296	5.1884	ug/L		96
50) Dibromomethane	7.559	93	30247	5.2685	ug/L		100
51) Methyl methacrylate	7.595	41	58033	4.5230	ug/L		100
52) 1,4-Dioxane	7.614	88	13331	103.3968	ug/L		96
53) Bromodichloromethane	7.632	83	55731	5.0522	ug/L		97
54) tert- Amyl Ethyl Ether	7.723	59	109352	4.5949	ug/L		98
55) Methyl cyclohexane	7.766	83	53258	4.5036	ug/L		97
56) 2-Chloroethyl vinyl ether	8.021	63	54803	8.2713	ug/L		98
57) 4-Methyl-2-pentanone	8.161	43	137277	9.4085	ug/L	#	92
58) cis-1,3-Dichloropropene	8.234	75	57813	4.7684	ug/L		97
61) trans-1,3-Dichloropropene	8.739	75	54629	4.3788	ug/L		90
62) Toluene	8.715	92	100214	5.2092	ug/L		97
63) 1,1,2-Trichloroethane	8.891	83	36704	5.4732	ug/L		99
64) Ethyl methacrylate	8.940	69	52127	4.4924	ug/L		97
65) 2-Hexanone	9.055	43	94997	9.4705	ug/L	#	94
66) 1,3-Dichloropropane	9.110	76	70270	5.2751	ug/L		99
67) Dibromochloromethane	9.366	129	39692	4.7359	ug/L		99
68) Tetrachloroethene	9.469	166	38916	5.1054	ug/L		100
69) 1,2-Dibromoethane	9.585	107	41876	5.0603	ug/L		99
70) 1-Chlorohexane	10.132	91	38371	4.2067	ug/L	#	83
71) Chlorobenzene	10.150	112	110814	5.2620	ug/L		93
72) 1,1,1,2-Tetrachloroethane	10.199	131	37787	4.9734	ug/L		95
73) Ethylbenzene	10.302	91	162724	4.7731	ug/L		99
74) m,p-Xylene	10.418	91	265662	9.7330	ug/L		97
75) Styrene	10.789	104	100791	4.5807	ug/L		98
76) o-Xylene	10.813	91	148630	4.9882	ug/L		98
77) Bromoform	10.893	173	24492	4.5524	ug/L		99
78) Isopropylbenzene	11.221	105	145434	4.6120	ug/L		100
79) 1,2,3-Trichloropropane	11.282	110	18807	5.1865	ug/L		94
82) cis-1,4-Dichloro-2-butene	10.996	53	16908	3.8740	ug/L		85
83) 1,1,2,2-Tetrachloroethane	11.160	83	55665	4.9720	ug/L		100
84) trans-1,4-Dichloro-2-b...	11.312	53	18184	4.3909	ug/L	#	1
85) Bromobenzene	11.489	156	48578	5.0237	ug/L		97
86) n-Propylbenzene	11.635	91	189202	4.7080	ug/L		97
87) 2-Chlorotoluene	11.714	91	125809	4.7773	ug/L		100
88) 4-Chlorotoluene	11.781	91	121690	4.6325	ug/L		96
89) 1,3,5-Trimethylbenzene	11.817	105	142251	4.5590	ug/L		99
90) tert-Butylbenzene	12.164	119	136249	4.3641	ug/L		100
91) 1,2,4-Trimethylbenzene	12.194	105	141374	4.2760	ug/L		99
92) sec-Butylbenzene	12.395	105	163462	4.3959	ug/L		98
93) 1,3-Dichlorobenzene	12.480	146	81098	4.9256	ug/L		98
94) 1,4-Dichlorobenzene	12.578	146	85104	5.1787	ug/L		95
95) p-Isopropyltoluene	12.541	119	142093	4.3718	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL4.D
Acq On : 16 Oct 2014 2:36 pm
Operator :
Sample : SEQ-CAL4
Misc : 1
ALS Vial : 7 Sample Multiplier: 1

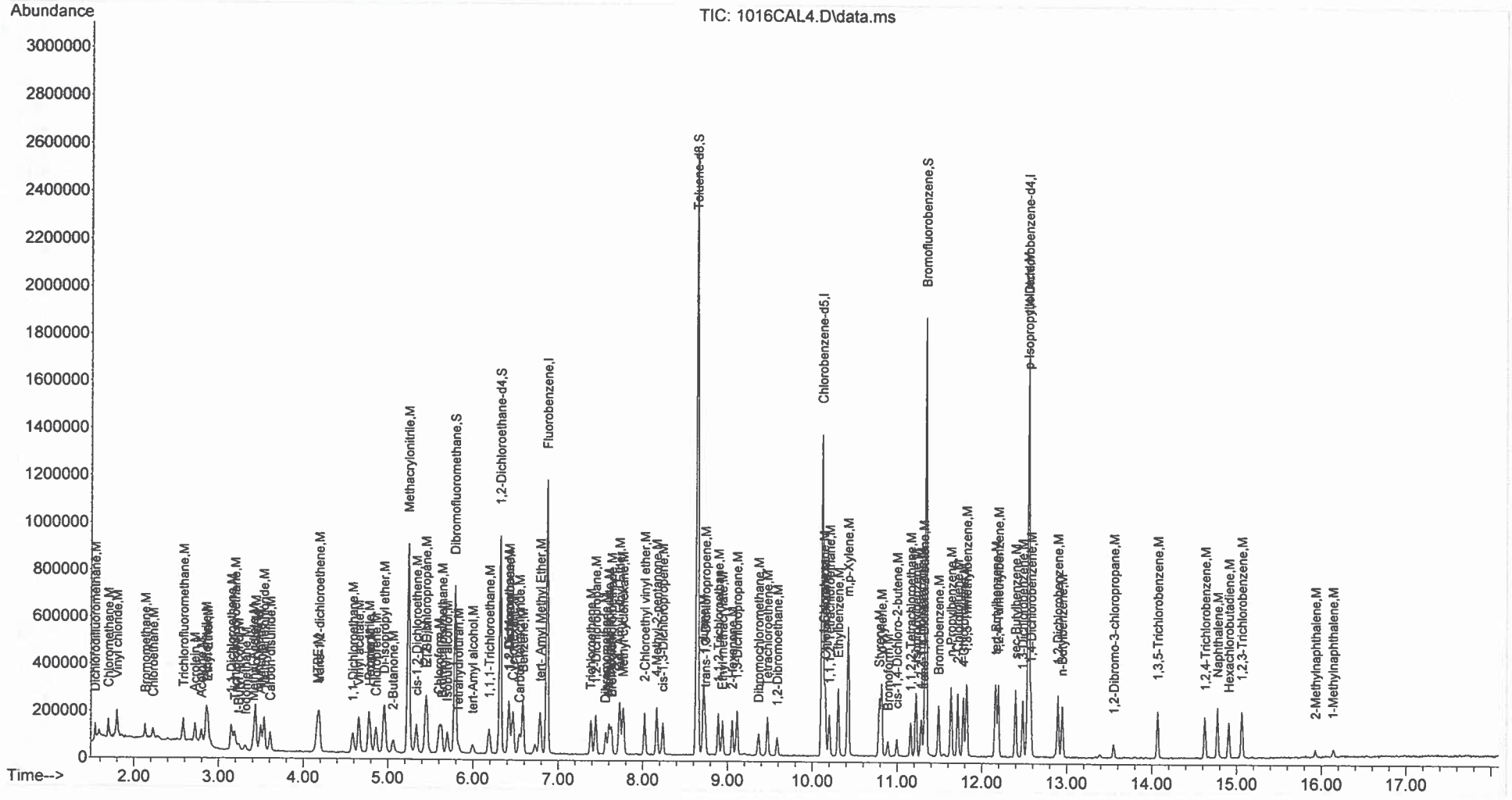
Quant Time: Oct 17 11:07:56 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:07:46 2014
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
96)	1,2-Dichlorobenzene	12.894	146	87557	5.1529 ug/L	97
97)	n-Butylbenzene	12.943	91	102523	3.8013 ug/L	98
98)	1,2-Dibromo-3-chloropr...	13.551	157	11461	4.6087 ug/L	93
99)	1,3,5-Trichlorobenzene	14.068	180	47264	3.8122 ug/L	91
100)	1,2,4-Trichlorobenzene	14.628	180	44904	4.0920 ug/L	95
101)	Naphthalene	14.774	128	136385	3.8390 ug/L	100
102)	Hexachlorobutadiene	14.908	225	24352	4.8491 ug/L	96
103)	1,2,3-Trichlorobenzene	15.060	180	50426	4.3939 ug/L	96
104)	2-Methylnaphthalene	15.930	142	9947	0.2623 ug/L	96
105)	1-Methylnaphthalene	16.137	142	12815	0.3386 ug/L	86

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL4.D
Acq On : 16 Oct 2014 2:36 pm
Operator :
Sample : SEQ-CAL4
Misc : 1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 17 11:07:56 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:07:46 2014
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL5.D
Acq On : 16 Oct 2014 3:01 pm
Operator :
Sample : SEQ-CAL5
Misc : 1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 17 11:06:51 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:06:40 2014
Response via : Initial Calibration

10/22/14

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	6.865	96	892199	30.00	ug/L	0.00
59) Chlorobenzene-d5	10.114	82	354114	30.00	ug/L	0.00
81) 1,4-Dichlorobenzene-d4	12.547	152	342855	30.00	ug/L	# 0.00
System Monitoring Compounds						
37) Dibromofluoromethane	5.789	111	501955	64.92	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 216.40%#			
41) 1,2-Dichloroethane-d4	6.318	102	123959	66.39	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 221.30%#			
60) Toluene-d8	8.636	98	1714492	60.61	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 202.03%#			
80) Bromofluorobenzene	11.337	95	634876	59.96	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 199.87%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.536	85	91716	12.7940	ug/L	99
3) Chloromethane	1.694	50	126702	10.8669	ug/L	99
4) Vinyl chloride	1.798	62	78211	10.4870	ug/L	96
5) Bromomethane	2.132	94	45691	11.3227	ug/L	96
6) Chloroethane	2.224	64	52521	10.1892	ug/L	95
7) Trichlorofluoromethane	2.576	101	117618	11.2533	ug/L	99
8) Acrolein	2.716	56	96708	54.9635	ug/L	95
9) Acetone	2.795	43	103527	20.2426	ug/L	98
10) Acetonitrile	2.850	41	235433	103.5434	ug/L	99
11) Ethyl Ether	2.868	59	79579	9.5197	ug/L	95
12) 1,1-Dichloroethene	3.148	96	71037	10.2505	ug/L	99
13) Trichlorotrifluoroethane	3.191	101	74501	11.0173	ug/L	96
14) Iodomethane	3.313	142	63185	8.1169	ug/L	98
15) t-Butyl Alcohol	3.233	59	57087	42.2908	ug/L	100
16) Methyl Acetate	3.404	43	133497	9.3045	ug/L	100
17) Acrylonitrile	3.434	53	288004	52.4504	ug/L	99
18) Allyl chloride	3.501	76	37942	9.2393	ug/L	92
19) Methylene chloride	3.532	84	95764	11.3032	ug/L	98
20) Carbon disulfide	3.605	76	215651	10.5394	ug/L	100
21) trans-1,2-dichloroethene	4.195	96	81546	11.1215	ug/L	96
22) MTBE	4.170	73	242836	9.4752	ug/L	97
23) 1,1-Dichloroethane	4.584	63	174615	10.3423	ug/L	98
24) Vinyl acetate	4.657	43	511204	18.0170	ug/L	100
25) Propionitrile	4.773	54	227196	106.3629	ug/L	99
26) Hexane	4.785	57	79191	8.8257	ug/L	90
27) Chloroprene	4.858	53	155571	9.5905	ug/L	99
28) Di-isopropyl ether	4.955	45	407463	10.1345	ug/L	99
29) 2-Butanone	5.059	43	159099	20.1968	ug/L	98
30) Methacrylonitrile	5.241	41	1010269	106.3879	ug/L	98
31) cis-1,2-Dichloroethene	5.332	96	88793	10.4860	ug/L	99
32) 2,2-Dichloropropane	5.442	77	112990	9.4765	ug/L	100
33) ETBE	5.454	59	302429	9.5783	ug/L	95
34) Chloroform	5.600	83	152415	10.1878	ug/L	94
35) Bromochloromethane	5.630	128	45165	10.0101	ug/L	97
36) Isobutyl alcohol	5.697	42	69990	167.8876	ug/L	95
38) Tetrahydrofuran	5.825	72	13952	9.5549	ug/L	87

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL5.D
Acq On : 16 Oct 2014 3:01 pm
Operator :
Sample : SEQ-CAL5
Misc : 1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 17 11:06:51 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:06:40 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39) tert-Amyl alcohol	5.989	59	43299	41.3314 ug/L	95
40) 1,1,1-Trichloroethane	6.184	97	126070	10.4448 ug/L	98
42) 1,2-Dichloroethane	6.415	62	152132	10.6354 ug/L	98
43) 1,1-Dichloropropene	6.421	75	105727	10.1560 ug/L	99
44) Cyclohexane	6.464	56	157518	9.2044 ug/L	99
45) Carbon tetrachloride	6.543	117	99753	9.6493 ug/L	100
46) Benzene	6.579	78	345289	10.8256 ug/L	99
47) tert- Amyl Methyl Ether	6.786	73	232896	9.4206 ug/L	97
48) Trichloroethene	7.389	95	82935	10.3002 ug/L	99
49) 1,2-Dichloropropane	7.443	63	102373	10.1819 ug/L	99
50) Dibromomethane	7.559	93	62702	10.6081 ug/L	96
51) Methyl methacrylate	7.595	41	120823	8.9103 ug/L	99
52) 1,4-Dioxane	7.614	88	24907	184.3057 ug/L	92
53) Bromodichloromethane	7.632	83	114500	10.0020 ug/L	100
54) tert- Amyl Ethyl Ether	7.723	59	230504	9.1621 ug/L	98
55) Methyl cyclohexane	7.766	83	118217	9.5612 ug/L	97
56) 2-Chloroethyl vinyl ether	8.021	63	115703	16.1099 ug/L	99
57) 4-Methyl-2-pentanone	8.161	43	293515	19.2424 ug/L #	92
58) cis-1,3-Dichloropropene	8.234	75	120236	9.4747 ug/L	97
61) trans-1,3-Dichloropropene	8.739	75	119542	9.1940 ug/L	96
62) Toluene	8.715	92	201715	10.1594 ug/L	99
63) 1,1,2-Trichloroethane	8.891	83	72588	10.5562 ug/L	95
64) Ethyl methacrylate	8.940	69	105251	8.6256 ug/L	99
65) 2-Hexanone	9.055	43	189671	18.0105 ug/L #	97
66) 1,3-Dichloropropane	9.110	76	144672	10.5418 ug/L	98
67) Dibromochloromethane	9.366	129	83120	9.5826 ug/L	98
68) Tetrachloroethene	9.469	166	83216	10.6572 ug/L	97
69) 1,2-Dibromoethane	9.585	107	85272	9.9704 ug/L	91
70) 1-Chlorohexane	10.132	91	80286	8.3694 ug/L	87
71) Chlorobenzene	10.150	112	227548	10.5061 ug/L	98
72) 1,1,1,2-Tetrachloroethane	10.199	131	76308	9.6540 ug/L	99
73) Ethylbenzene	10.303	91	351417	9.9394 ug/L	100
74) m,p-Xylene	10.418	91	580565	20.6167 ug/L	99
75) Styrene	10.789	104	211536	9.2387 ug/L	98
76) o-Xylene	10.814	91	308741	10.0265 ug/L	99
77) Bromoform	10.887	173	51120	9.1093 ug/L	98
78) Isopropylbenzene	11.221	105	331009	10.1576 ug/L	98
79) 1,2,3-Trichloropropane	11.288	110	38897	10.4540 ug/L #	90
82) cis-1,4-Dichloro-2-butene	10.996	53	34459	7.1542 ug/L #	85
83) 1,1,2,2-Tetrachloroethane	11.160	83	115612	9.8653 ug/L	96
84) trans-1,4-Dichloro-2-b...	11.319	53	35997	7.9799 ug/L #	1
85) Bromobenzene	11.489	156	97706	9.7102 ug/L	99
86) n-Propylbenzene	11.635	91	410796	9.7740 ug/L	99
87) 2-Chlorotoluene	11.714	91	266247	9.6545 ug/L	96
88) 4-Chlorotoluene	11.781	91	262304	9.5152 ug/L	98
89) 1,3,5-Trimethylbenzene	11.823	105	311083	9.4733 ug/L	97
90) tert-Butylbenzene	12.158	119	309176	9.4179 ug/L	99
91) 1,2,4-Trimethylbenzene	12.195	105	329797	9.4855 ug/L	97
92) sec-Butylbenzene	12.395	105	382511	9.8020 ug/L	98
93) 1,3-Dichlorobenzene	12.480	146	176248	10.3285 ug/L	99
94) 1,4-Dichlorobenzene	12.578	146	176085	10.3281 ug/L	97
95) p-Isopropyltoluene	12.541	119	323183	9.4414 ug/L	100

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL5.D
Acq On : 16 Oct 2014 3:01 pm
Operator :
Sample : SEQ-CAL5
Misc : 1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 17 11:06:51 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:06:40 2014
Response via : Initial Calibration

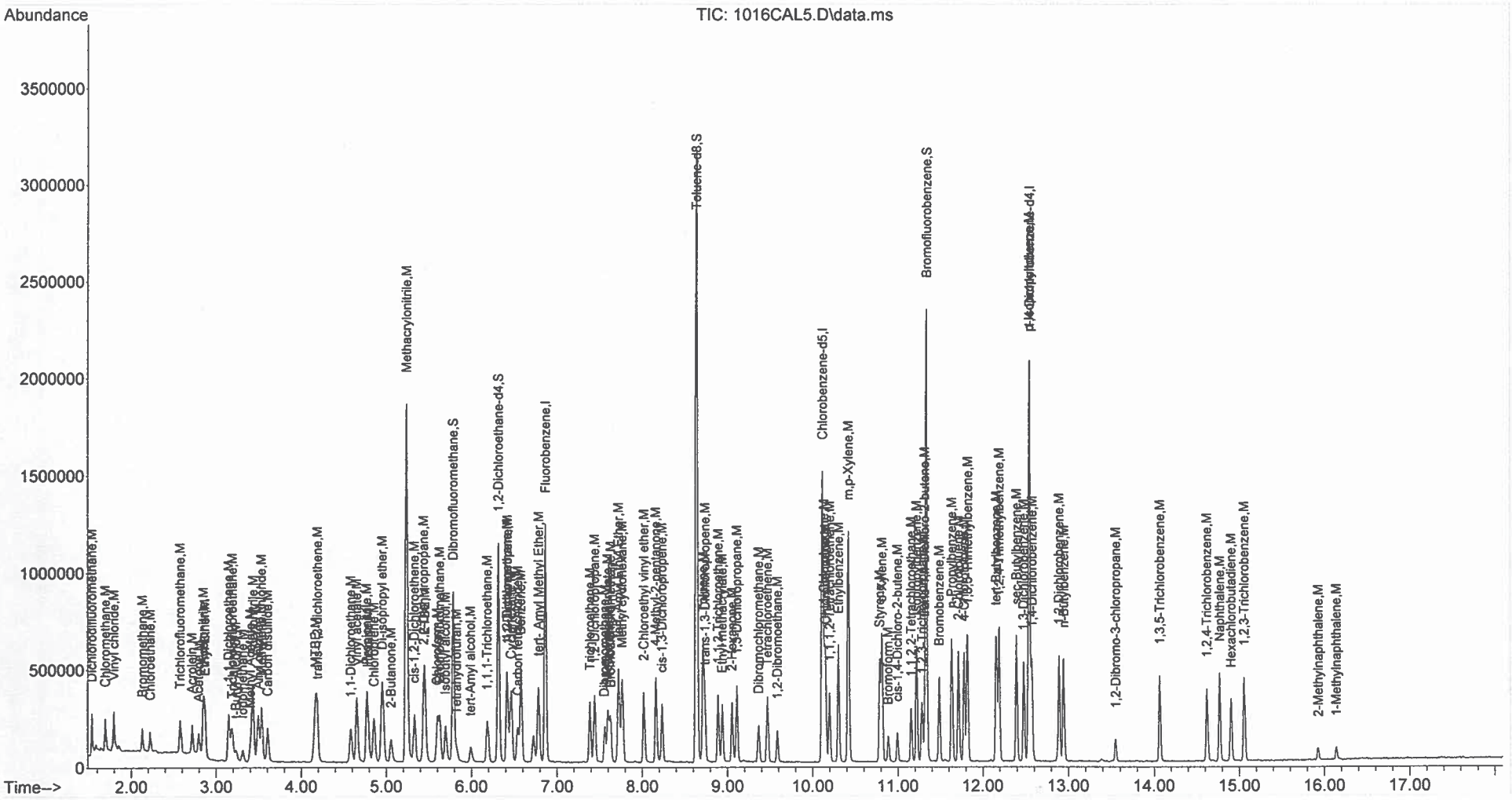
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
96)	1,2-Dichlorobenzene	12.894	146	185280	10.5207	ug/L	97
97)	n-Butylbenzene	12.949	91	248735	8.7327	ug/L	99
98)	1,2-Dibromo-3-chloropr...	13.551	157	21510	8.1303	ug/L	93
99)	1,3,5-Trichlorobenzene	14.068	180	117911	9.0205	ug/L	99
100)	1,2,4-Trichlorobenzene	14.622	180	98972	8.5420	ug/L	96
101)	Naphthalene	14.774	128	305753	8.0546	ug/L	100
102)	Hexachlorobutadiene	14.908	225	56443	10.9942	ug/L	95
103)	1,2,3-Trichlorobenzene	15.060	180	111849	9.2867	ug/L	99
104)	2-Methylnaphthalene	15.930	142	25771	0.5482	ug/L	93
105)	1-Methylnaphthalene	16.143	142	23931	0.5137	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL5.D
Acq On : 16 Oct 2014 3:01 pm
Operator :
Sample : SEQ-CAL5
Misc : 1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 17 11:06:51 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:06:40 2014
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL6.D
Acq On : 16 Oct 2014 3:26 pm
Operator :
Sample : SEQ-CAL6
Misc : 1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 17 11:05:46 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:05:34 2014
Response via : Initial Calibration

10/22/14

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	6.865	96	913602	30.00	ug/L	0.00
59) Chlorobenzene-d5	10.114	82	350957	30.00	ug/L	0.00
81) 1,4-Dichlorobenzene-d4	12.547	152	349408	30.00	ug/L	# 0.00
System Monitoring Compounds						
37) Dibromofluoromethane	5.788	111	579712	73.59	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 245.30%#			
41) 1,2-Dichloroethane-d4	6.318	102	144715	76.23	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 254.10%#			
60) Toluene-d8	8.642	98	2029461	72.70	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 242.33%#			
80) Bromofluorobenzene	11.337	95	798376	76.82	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 256.07%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.536	85	447406	62.3155	ug/L	99
3) Chloromethane	1.694	50	617236	51.8877	ug/L	100
4) Vinyl chloride	1.798	62	352782	45.7180	ug/L	99
5) Bromomethane	2.132	94	196522	47.1300	ug/L	98
6) Chloroethane	2.223	64	260865	48.8230	ug/L	98
7) Trichlorofluoromethane	2.582	101	594798	56.1606	ug/L	99
8) Acrolein	2.716	56	498863	289.7435	ug/L	97
9) Acetone	2.795	43	495556	94.9218	ug/L	99
10) Acetonitrile	2.850	41	1135822	486.6120	ug/L	99
11) Ethyl Ether	2.868	59	391372	44.8084	ug/L	99
12) 1,1-Dichloroethene	3.148	96	359416	50.8210	ug/L	99
13) Trichlorotrifluoroethane	3.191	101	384668	56.2753	ug/L	100
14) Iodomethane	3.312	142	435545	53.6602	ug/L	97
15) t-Butyl Alcohol	3.233	59	309430	219.2072	ug/L	100
16) Methyl Acetate	3.404	43	636680	43.1179	ug/L	100
17) Acrylonitrile	3.434	53	1476360	262.6896	ug/L	98
18) Allyl chloride	3.495	76	202624	47.7161	ug/L	97
19) Methylene chloride	3.538	84	445553	51.7531	ug/L	99
20) Carbon disulfide	3.611	76	1117328	53.4946	ug/L	100
21) trans-1,2-dichloroethene	4.188	96	394318	52.4451	ug/L	99
22) MTBE	4.170	73	1267431	47.7705	ug/L	98
23) 1,1-Dichloroethane	4.590	63	874917	50.2381	ug/L	99
24) Vinyl acetate	4.657	43	2786534	94.0778	ug/L	100
25) Propionitrile	4.772	54	1112739	505.4835	ug/L	99
26) Hexane	4.785	57	479594	51.3659	ug/L	98
27) Chloroprene	4.858	53	838884	49.9577	ug/L	99
28) Di-isopropyl ether	4.955	45	2162274	52.5511	ug/L	99
29) 2-Butanone	5.052	43	802017	98.8942	ug/L	99
30) Methacrylonitrile	5.241	41	5230270	537.1124	ug/L	99
31) cis-1,2-Dichloroethene	5.332	96	450442	51.9008	ug/L	97
32) 2,2-Dichloropropane	5.442	77	580269	47.0450	ug/L	98
33) ETBE	5.454	59	1588207	48.2759	ug/L	99
34) Chloroform	5.606	83	781292	51.0922	ug/L	98
35) Bromochloromethane	5.636	128	230151	49.6901	ug/L	99
36) Isobutyl alcohol	5.697	42	393917	898.9371	ug/L	98
38) Tetrahydrofuran	5.819	72	69893	46.4517	ug/L	93

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL6.D
Acq On : 16 Oct 2014 3:26 pm
Operator :
Sample : SEQ-CAL6
Misc : 1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 17 11:05:46 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:05:34 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
39) tert-Amyl alcohol	5.995	59	233811	212.4849	ug/L		96
40) 1,1,1-Trichloroethane	6.190	97	653496	52.7679	ug/L		100
42) 1,2-Dichloroethane	6.415	62	771808	52.5899	ug/L		100
43) 1,1-Dichloropropene	6.421	75	544652	50.8596	ug/L		99
44) Cyclohexane	6.464	56	868420	49.2001	ug/L		100
45) Carbon tetrachloride	6.543	117	535024	50.1649	ug/L		100
46) Benzene	6.579	78	1721386	52.6905	ug/L		100
47) tert- Amyl Methyl Ether	6.786	73	1236502	48.1879	ug/L		99
48) Trichloroethene	7.388	95	444702	54.2882	ug/L		99
49) 1,2-Dichloropropane	7.443	63	510828	49.2637	ug/L		98
50) Dibromomethane	7.565	93	312090	51.7644	ug/L		100
51) Methyl methacrylate	7.601	41	680490	48.4310	ug/L		100
52) 1,4-Dioxane	7.607	88	140649	1021.4649	ug/L		98
53) Bromodichloromethane	7.632	83	595563	50.7060	ug/L		99
54) tert- Amyl Ethyl Ether	7.723	59	1254167	47.9355	ug/L		100
55) Methyl cyclohexane	7.766	83	662578	52.4263	ug/L		99
56) 2-Chloroethyl vinyl ether	8.021	63	612566	79.3250	ug/L		100
57) 4-Methyl-2-pentanone	8.161	43	1555273	98.9964	ug/L		99
58) cis-1,3-Dichloropropene	8.234	75	643262	48.9777	ug/L		99
61) trans-1,3-Dichloropropene	8.739	75	630168	48.4601	ug/L		98
62) Toluene	8.715	92	1035839	52.6927	ug/L		100
63) 1,1,2-Trichloroethane	8.891	83	359313	52.9998	ug/L		98
64) Ethyl methacrylate	8.940	69	593049	48.4847	ug/L		100
65) 2-Hexanone	9.055	43	1073912	102.4212	ug/L		99
66) 1,3-Dichloropropane	9.110	76	744111	55.0917	ug/L		100
67) Dibromochloromethane	9.366	129	440673	51.1213	ug/L		99
68) Tetrachloroethene	9.469	166	424242	55.1863	ug/L		99
69) 1,2-Dibromoethane	9.585	107	445668	52.7218	ug/L		99
70) 1-Chlorohexane	10.132	91	463716	48.1435	ug/L		96
71) Chlorobenzene	10.150	112	1191621	55.7627	ug/L		100
72) 1,1,1,2-Tetrachloroethane	10.199	131	394368	50.0646	ug/L		99
73) Ethylbenzene	10.302	91	1938031	55.4557	ug/L		99
74) m,p-Xylene	10.418	91	3094578	111.5576	ug/L		99
75) Styrene	10.789	104	1211552	53.3695	ug/L		99
76) o-Xylene	10.813	91	1687159	55.7680	ug/L		99
77) Bromoform	10.893	173	283233	50.6161	ug/L		100
78) Isopropylbenzene	11.221	105	1782901	55.2838	ug/L		99
79) 1,2,3-Trichloropropane	11.282	110	194587	53.4172	ug/L		94
82) cis-1,4-Dichloro-2-butene	10.996	53	198190	38.1608	ug/L		97
83) 1,1,2,2-Tetrachloroethane	11.160	83	578004	47.6826	ug/L		99
84) trans-1,4-Dichloro-2-b...	11.318	53	207390	43.1449	ug/L	#	1
85) Bromobenzene	11.489	156	501101	48.4325	ug/L		98
86) n-Propylbenzene	11.635	91	2307466	53.4403	ug/L		99
87) 2-Chlorotoluene	11.714	91	1429961	50.5362	ug/L		100
88) 4-Chlorotoluene	11.781	91	1445555	50.9800	ug/L		100
89) 1,3,5-Trimethylbenzene	11.817	105	1741804	51.5898	ug/L		99
90) tert-Butylbenzene	12.164	119	1682946	49.7863	ug/L		99
91) 1,2,4-Trimethylbenzene	12.194	105	1834377	51.2486	ug/L		100
92) sec-Butylbenzene	12.395	105	2143186	53.4745	ug/L		99
93) 1,3-Dichlorobenzene	12.480	146	948739	54.3633	ug/L		99
94) 1,4-Dichlorobenzene	12.578	146	956638	54.9618	ug/L		99
95) p-Isopropyltoluene	12.541	119	1851054	52.5575	ug/L		99

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL6.D
Acq On : 16 Oct 2014 3:26 pm
Operator :
Sample : SEQ-CAL6
Misc : 1
ALS Vial : 9 Sample Multiplier: 1

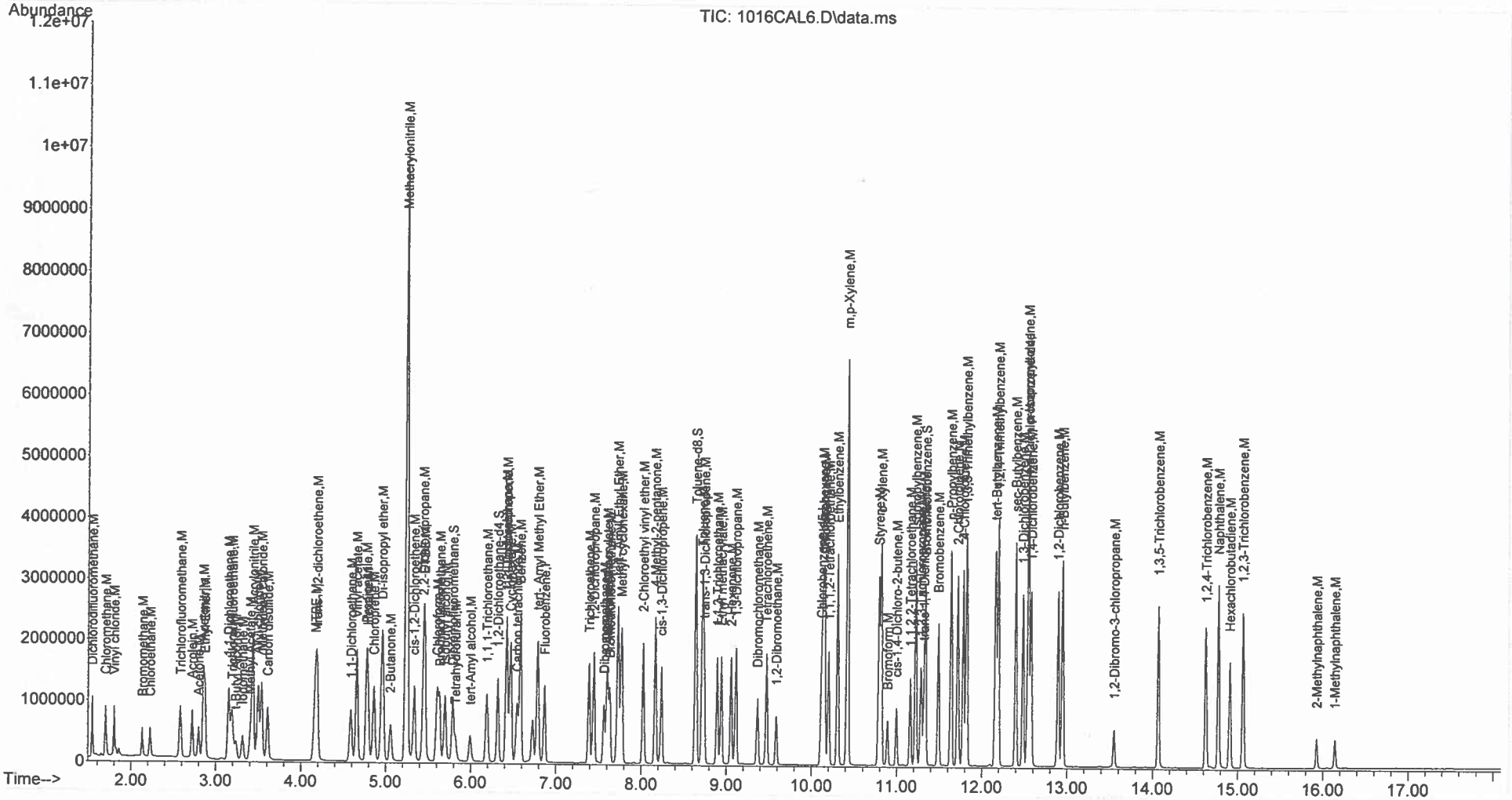
Quant Time: Oct 17 11:05:46 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:05:34 2014
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
96)	1,2-Dichlorobenzene	12.894	146	960554	53.3199	ug/L	99
97)	n-Butylbenzene	12.949	91	1613611	55.1357	ug/L	99
98)	1,2-Dibromo-3-chloropr...	13.551	157	122956	44.7511	ug/L	94
99)	1,3,5-Trichlorobenzene	14.068	180	676306	49.9149	ug/L	100
100)	1,2,4-Trichlorobenzene	14.628	180	613480	51.0667	ug/L	100
101)	Naphthalene	14.774	128	1972638	49.7160	ug/L	100
102)	Hexachlorobutadiene	14.908	225	277996	53.1074	ug/L	99
103)	1,2,3-Trichlorobenzene	15.060	180	651399	52.4837	ug/L	99
104)	2-Methylnaphthalene	15.930	142	196140	3.3449	ug/L	95
105)	1-Methylnaphthalene	16.143	142	181979	3.2051	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL6.D
Acq On : 16 Oct 2014 3:26 pm
Operator :
Sample : SEQ-CAL6
Misc : 1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 17 11:05:46 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:05:34 2014
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL7.D
Acq On : 16 Oct 2014 3:51 pm
Operator :
Sample : SEQ-CAL7
Misc : 1
ALS Vial : 10 Sample Multiplier: 1

m 10/24/14

Quant Time: Oct 17 11:04:38 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:04:28 2014
Response via : Initial Calibration

SP 10/22/14

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	6.865	96	928682	30.00	ug/L	0.00
59) Chlorobenzene-d5	10.114	82	373192	30.00	ug/L	0.00
81) 1,4-Dichlorobenzene-d4	12.547	152	347318	30.00	ug/L	# 0.00
System Monitoring Compounds						
37) Dibromofluoromethane	5.788	111	246405	30.87	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 102.90%			
41) 1,2-Dichloroethane-d4	6.318	102	57178	29.49	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 98.30%			
60) Toluene-d8	8.635	98	878365	29.49	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 98.30%			
80) Bromofluorobenzene	11.337	95	339717	30.87	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 102.90%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.536	85	904729	125.9207	ug/L	98
3) Chloromethane	1.694	50	1260660	104.5329	ug/L	100
4) Vinyl chloride	1.798	62	768734	97.0319	ug/L	99
5) Bromomethane	2.132	94	433655	101.1445	ug/L	98
6) Chloroethane	2.223	64	530204	96.1462	ug/L	99
7) Trichlorofluoromethane	2.576	101	1183608	110.4564	ug/L	99
8) Acrolein	2.716	56	1055970	637.2987	ug/L	98
9) Acetone	2.795	43	990498	186.5881	ug/L	97
10) Acetonitrile	2.850	41	2276191	950.8212	ug/L	99
11) Ethyl Ether	2.868	59	833958	92.1664	ug/L	98
12) 1,1-Dichloroethene	3.148	96	726417	100.7350	ug/L	99
13) Trichlorotrifluoroethane	3.185	101	768123	110.5078	ug/L	99
14) Iodomethane	3.312	142	942854	112.5540	ug/L	98
15) t-Butyl Alcohol	3.233	59	624951	424.4348	ug/L	97
16) Methyl Acetate	3.404	43	1271120	83.9372	ug/L	100
17) Acrylonitrile	3.434	53	2976891	518.9869	ug/L	99
18) Allyl chloride	3.495	76	408944	93.6533	ug/L	98
19) Methylene chloride	3.537	84	889308	101.7522	ug/L	99
20) Carbon disulfide	3.604	76	2295023	107.9028	ug/L	100
21) trans-1,2-dichloroethene	4.188	96	809351	105.2397	ug/L	99
22) MTBE	4.170	73	2618701	95.8253	ug/L	99
23) 1,1-Dichloroethane	4.590	63	1784963	99.6395	ug/L	99
24) Vinyl acetate	4.657	43	5801184	188.9271	ug/L	99
25) Propionitrile	4.772	54	2272883	1005.8085	ug/L	99
26) Hexane	4.785	57	988577	101.6696	ug/L	99
27) Chloroprene	4.858	53	1741998	100.5021	ug/L	99
28) Di-isopropyl ether	4.955	45	4352569	103.6547	ug/L	99
29) 2-Butanone	5.052	43	1638893	196.7871	ug/L	100
30) Methacrylonitrile	5.241	41	10304409	1034.6308	ug/L	93
31) cis-1,2-Dichloroethene	5.338	96	911001	102.7500	ug/L	100
32) 2,2-Dichloropropane	5.442	77	1165819	91.4325	ug/L	100
33) ETBE	5.454	59	3226984	94.6272	ug/L	98
34) Chloroform	5.606	83	1592060	102.3577	ug/L	98
35) Bromochloromethane	5.630	128	454594	96.1394	ug/L	98
36) Isobutyl alcohol	5.697	42	830061	1805.7034	ug/L	96
38) Tetrahydrofuran	5.819	72	136640	87.8046	ug/L	97

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL7.D
Acq On : 16 Oct 2014 3:51 pm
Operator :
Sample : SEQ-CAL7
Misc : 1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 17 11:04:38 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:04:28 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
39) tert-Amyl alcohol	5.995	59	504070	438.3012	ug/L	100
40) 1,1,1-Trichloroethane	6.190	97	1318245	103.8974	ug/L	99
42) 1,2-Dichloroethane	6.415	62	1543388	102.7615	ug/L	100
43) 1,1-Dichloropropene	6.421	75	1146132	104.4469	ug/L	99
44) Cyclohexane	6.464	56	1779506	97.7994	ug/L	100
45) Carbon tetrachloride	6.543	117	1117028	101.7084	ug/L	98
46) Benzene	6.579	78	3481408	104.2965	ug/L	99
47) tert- Amyl Methyl Ether	6.786	73	2549526	96.1298	ug/L	99
48) Trichloroethene	7.388	95	899385	107.9470	ug/L	100
49) 1,2-Dichloropropane	7.443	63	1050954	98.7143	ug/L	98
50) Dibromomethane	7.565	93	629232	102.6196	ug/L	99
51) Methyl methacrylate	7.595	41	1420734	98.0888	ug/L	100
52) 1,4-Dioxane	7.607	88	284334	2014.4524	ug/L	97
53) Bromodichloromethane	7.632	83	1247971	103.9843	ug/L	98
54) tert- Amyl Ethyl Ether	7.723	59	2633054	97.5875	ug/L	99
55) Methyl cyclohexane	7.766	83	1356860	105.0371	ug/L	100
56) 2-Chloroethyl vinyl ether	8.021	63	1210694	146.1489	ug/L	100
57) 4-Methyl-2-pentanone	8.161	43	3249737	201.9592	ug/L	98
58) cis-1,3-Dichloropropene	8.234	75	1368291	101.3638	ug/L	99
61) trans-1,3-Dichloropropene	8.739	75	1348807	96.1503	ug/L	98
62) Toluene	8.715	92	2131528	101.1618	ug/L	97
63) 1,1,2-Trichloroethane	8.891	83	726626	100.4078	ug/L	99
64) Ethyl methacrylate	8.940	69	1263872	95.7143	ug/L	99
65) 2-Hexanone	9.055	43	2255463	199.8882	ug/L	98
66) 1,3-Dichloropropane	9.110	76	1490401	103.2797	ug/L	99
67) Dibromochloromethane	9.366	129	950425	102.8221	ug/L	99
68) Tetrachloroethene	9.469	166	876243	106.5318	ug/L	99
69) 1,2-Dibromoethane	9.585	107	914303	101.1819	ug/L	98
70) 1-Chlorohexane	10.132	91	1025001	98.6416	ug/L	99
71) Chlorobenzene	10.150	112	2448105	107.3206	ug/L	99
72) 1,1,1,2-Tetrachloroethane	10.199	131	836065	98.8132	ug/L	99
73) Ethylbenzene	10.302	91	4012504	107.4107	ug/L	99
74) m,p-Xylene	10.418	91	6286037	212.4936	ug/L	97
75) Styrene	10.789	104	2580720	106.3648	ug/L	99
76) o-Xylene	10.813	91	3437722	106.7888	ug/L	98
77) Bromoform	10.892	173	617287	102.4733	ug/L	99
78) Isopropylbenzene	11.221	105	3759199	109.3001	ug/L	99
79) 1,2,3-Trichloropropane	11.282	110	387776	99.7458	ug/L	99
82) cis-1,4-Dichloro-2-butene	10.996	53	433636	79.8693	ug/L	98
83) 1,1,2,2-Tetrachloroethane	11.160	83	1196091	97.9233	ug/L	99
84) trans-1,4-Dichloro-2-b...	11.318	53	439226	88.2625	ug/L	88
85) Bromobenzene	11.489	156	1057262	102.2615	ug/L	99
86) n-Propylbenzene	11.635	91	4759500	110.1812	ug/L	98
87) 2-Chlorotoluene	11.714	91	2981308	105.4926	ug/L	99
88) 4-Chlorotoluene	11.781	91	3034797	106.9465	ug/L	99
89) 1,3,5-Trimethylbenzene	11.817	105	3613512	107.0673	ug/L	99
90) tert-Butylbenzene	12.164	119	3497688	103.4391	ug/L	100
91) 1,2,4-Trimethylbenzene	12.194	105	3781532	105.7979	ug/L	98
92) sec-Butylbenzene	12.395	105	4467987	111.7117	ug/L	97
93) 1,3-Dichlorobenzene	12.480	146	1975296	113.5695	ug/L	100
94) 1,4-Dichlorobenzene	12.578	146	1995690	115.2532	ug/L	99
95) p-Isopropyltoluene	12.541	119	3871168	109.9940	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL7.D
Acq On : 16 Oct 2014 3:51 pm
Operator :
Sample : SEQ-CAL7
Misc : 1
ALS Vial : 10 Sample Multiplier: 1

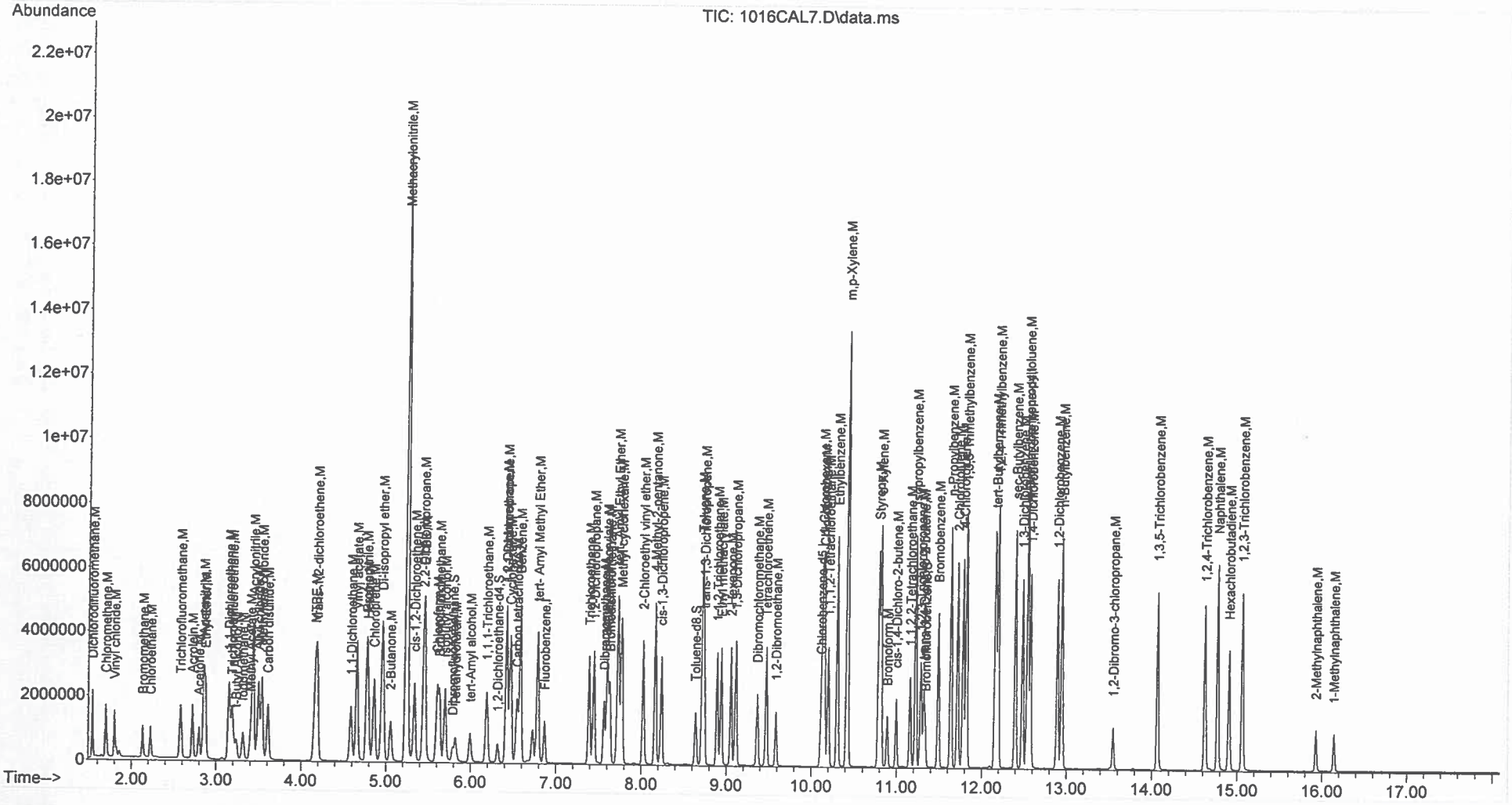
Quant Time: Oct 17 11:04:38 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:04:28 2014
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
96)	1,2-Dichlorobenzene	12.894	146	1974747	110.0110	ug/L	99
97)	n-Butylbenzene	12.949	91	3440585	117.5664	ug/L	98
98)	1,2-Dibromo-3-chloropr...	13.551	157	271077	97.5895	ug/L	99
99)	1,3,5-Trichlorobenzene	14.068	180	1463619	107.4820	ug/L	99
100)	1,2,4-Trichlorobenzene	14.628	180	1366822	113.0163	ug/L	100
101)	Naphthalene	14.774	128	4346239	108.1247	ug/L	100
102)	Hexachlorobutadiene	14.908	225	594459	114.3497	ug/L	99
103)	1,2,3-Trichlorobenzene	15.060	180	1419873	114.1205	ug/L	99
104)	2-Methylnaphthalene	15.930	142	504841	7.1665	ug/L	99
105)	1-Methylnaphthalene	16.143	142	459209	6.8592	ug/L	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL7.D
Acq On : 16 Oct 2014 3:51 pm
Operator :
Sample : SEQ-CAL7
Misc : 1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 17 11:04:38 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:04:28 2014
Response via : Initial Calibration



131

1501124

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL8.D
Acq On : 16 Oct 2014 4:16 pm
Operator :
Sample : SEQ-CAL8
Misc : 1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 17 11:03:27 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:03:13 2014
Response via : Initial Calibration

10/10/2014

SP 10/22/14

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	6.865	96	935413	30.00	ug/L	0.00
59) Chlorobenzene-d5	10.114	82	373690	30.00	ug/L	0.00
81) 1,4-Dichlorobenzene-d4	12.547	152	365260	30.00	ug/L	# 0.00
System Monitoring Compounds						
37) Dibromofluoromethane	5.789	111	248912	31.15	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 103.83%			
41) 1,2-Dichloroethane-d4	6.318	102	61137	31.62	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 105.40%			
60) Toluene-d8	8.636	98	884659	29.63	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 98.77%			
80) Bromofluorobenzene	11.337	95	347350	31.79	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 105.97%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.536	85	1347897	190.6323	ug/L	100
3) Chloromethane	1.694	50	1963535	163.0859	ug/L	100
4) Vinyl chloride	1.798	62	1110668	138.9827	ug/L	100
5) Bromomethane	2.132	94	685759	157.0988	ug/L	100
6) Chloroethane	2.224	64	817784	145.7731	ug/L	99
7) Trichlorofluoromethane	2.583	101	1802488	168.9994	ug/L	100
8) Acrolein	2.716	56	1722466	1111.6643	ug/L	99
9) Acetone	2.795	43	1461056	273.7722	ug/L	99
10) Acetonitrile	2.850	41	3547120	1469.3123	ug/L	100
11) Ethyl Ether	2.868	59	1269585	137.3530	ug/L	99
12) 1,1-Dichloroethene	3.148	96	1053893	144.4298	ug/L	97
13) Trichlorotrifluoroethane	3.191	101	1108151	158.8079	ug/L	99
14) Iodomethane	3.313	142	1424292	167.1199	ug/L	98
15) t-Butyl Alcohol	3.233	59	1049994	699.4701	ug/L	97
16) Methyl Acetate	3.404	43	1892922	123.1140	ug/L	99
17) Acrylonitrile	3.434	53	4466068	771.3847	ug/L	100
18) Allyl chloride	3.495	76	591896	132.8865	ug/L	98
19) Methylene chloride	3.538	84	1310875	149.1892	ug/L	99
20) Carbon disulfide	3.611	76	3418006	159.4437	ug/L	100
21) trans-1,2-dichloroethene	4.189	96	1208637	155.3279	ug/L	100
22) MTBE	4.170	73	4000097	143.8321	ug/L	99
23) 1,1-Dichloroethane	4.590	63	2702272	148.6763	ug/L	100
24) Vinyl acetate	4.657	43	8774077	279.5659	ug/L	99
25) Propionitrile	4.773	54	3419332	1492.3526	ug/L	100
26) Hexane	4.785	57	1534523	154.3740	ug/L	100
27) Chloroprene	4.858	53	2663602	150.8297	ug/L	100
28) Di-isopropyl ether	4.955	45	6422916	151.3359	ug/L	100
29) 2-Butanone	5.052	43	2468307	291.4918	ug/L	100
30) Methacrylonitrile	5.247	41	14848262	1474.1376	ug/L	95
31) cis-1,2-Dichloroethene	5.338	96	1376300	153.5671	ug/L	100
32) 2,2-Dichloropropane	5.442	77	1755738	135.1652	ug/L	100
33) ETBE	5.454	59	4835527	138.2695	ug/L	99
34) Chloroform	5.606	83	2372926	151.5202	ug/L	99
35) Bromochloromethane	5.636	128	669250	140.1717	ug/L	99
36) Isobutyl alcohol	5.697	42	1312117	2770.4233	ug/L	98
38) Tetrahydrofuran	5.819	72	211079	133.7534	ug/L	95

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL8.D
Acq On : 16 Oct 2014 4:16 pm
Operator :
Sample : SEQ-CAL8
Misc : 1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 17 11:03:27 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:03:13 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39) tert-Amyl alcohol	5.995	59	784680	662.3961 ug/L	98
40) 1,1,1-Trichloroethane	6.190	97	2007308	156.5360 ug/L	100
42) 1,2-Dichloroethane	6.415	62	2314590	152.2900 ug/L	99
43) 1,1-Dichloropropene	6.421	75	1740243	156.8405 ug/L	99
44) Cyclohexane	6.464	56	2726705	148.0231 ug/L	99
45) Carbon tetrachloride	6.543	117	1704216	152.9613 ug/L	98
46) Benzene	6.586	78	5204761	154.3333 ug/L	99
47) tert- Amyl Methyl Ether	6.786	73	3861766	142.6428 ug/L	100
48) Trichloroethene	7.389	95	1357543	161.9940 ug/L	99
49) 1,2-Dichloropropane	7.443	63	1587761	146.6641 ug/L	99
50) Dibromomethane	7.565	93	942875	152.7377 ug/L	99
51) Methyl methacrylate	7.601	41	2172970	147.3645 ug/L	100
52) 1,4-Dioxane	7.608	88	434776	3042.6181 ug/L	98
53) Bromodichloromethane	7.632	83	1885201	155.5080 ug/L	99
54) tert- Amyl Ethyl Ether	7.723	59	3948457	143.5140 ug/L	100
55) Methyl cyclohexane	7.766	83	2047995	157.3845 ug/L	100
56) 2-Chloroethyl vinyl ether	8.021	63	1804029	205.8114 ug/L	99
57) 4-Methyl-2-pentanone	8.161	43	4878024	299.3418 ug/L	99
58) cis-1,3-Dichloropropene	8.234	75	2069764	150.8299 ug/L	100
61) trans-1,3-Dichloropropene	8.739	75	2081132	146.5057 ug/L	100
62) Toluene	8.715	92	3208127	151.1702 ug/L	99
63) 1,1,2-Trichloroethane	8.891	83	1093544	150.4214 ug/L	99
64) Ethyl methacrylate	8.940	69	1944022	145.3637 ug/L	99
65) 2-Hexanone	9.055	43	3415620	299.5863 ug/L	100
66) 1,3-Dichloropropane	9.110	76	2236726	154.3224 ug/L	100
67) Dibromochloromethane	9.366	129	1450867	155.7316 ug/L	99
68) Tetrachloroethene	9.469	166	1327083	160.8332 ug/L	99
69) 1,2-Dibromoethane	9.585	107	1392663	153.3455 ug/L	100
70) 1-Chlorohexane	10.132	91	1587400	151.2149 ug/L	99
71) Chlorobenzene	10.151	112	3664857	160.1269 ug/L	99
72) 1,1,1,2-Tetrachloroethane	10.199	131	1259220	147.2555 ug/L	99
73) Ethylbenzene	10.303	91	6025566	160.7928 ug/L	99
74) m,p-Xylene	10.418	91	9211062	310.4370 ug/L	98
75) Styrene	10.789	104	3914789	160.5251 ug/L	99
76) o-Xylene	10.814	91	5026465	155.8510 ug/L	100
77) Bromoform	10.893	173	955823	156.6840 ug/L	98
78) Isopropylbenzene	11.221	105	5650698	164.0863 ug/L	99
79) 1,2,3-Trichloropropane	11.282	110	585299	150.6607 ug/L	99
82) cis-1,4-Dichloro-2-butene	10.996	53	653982	108.5832 ug/L	97
83) 1,1,2,2-Tetrachloroethane	11.160	83	1779690	135.6084 ug/L	100
84) trans-1,4-Dichloro-2-b...	11.312	53	654573	119.2943 ug/L	96
85) Bromobenzene	11.489	156	1609447	146.1501 ug/L	99
86) n-Propylbenzene	11.635	91	7049047	153.0893 ug/L	99
87) 2-Chlorotoluene	11.714	91	4397013	145.9887 ug/L	100
88) 4-Chlorotoluene	11.781	91	4521606	149.2151 ug/L	100
89) 1,3,5-Trimethylbenzene	11.817	105	5290631	147.0462 ug/L	99
90) tert-Butylbenzene	12.164	119	5209411	144.6705 ug/L	99
91) 1,2,4-Trimethylbenzene	12.195	105	5599973	147.0205 ug/L	98
92) sec-Butylbenzene	12.395	105	6592698	154.8064 ug/L	99
93) 1,3-Dichlorobenzene	12.481	146	2922386	157.7526 ug/L	100
94) 1,4-Dichlorobenzene	12.578	146	2960234	160.6412 ug/L	99
95) p-Isopropyltoluene	12.541	119	5720091	152.4074 ug/L	99

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL8.D
Acq On : 16 Oct 2014 4:16 pm
Operator :
Sample : SEQ-CAL8
Misc : 1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 17 11:03:27 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:03:13 2014
Response via : Initial Calibration

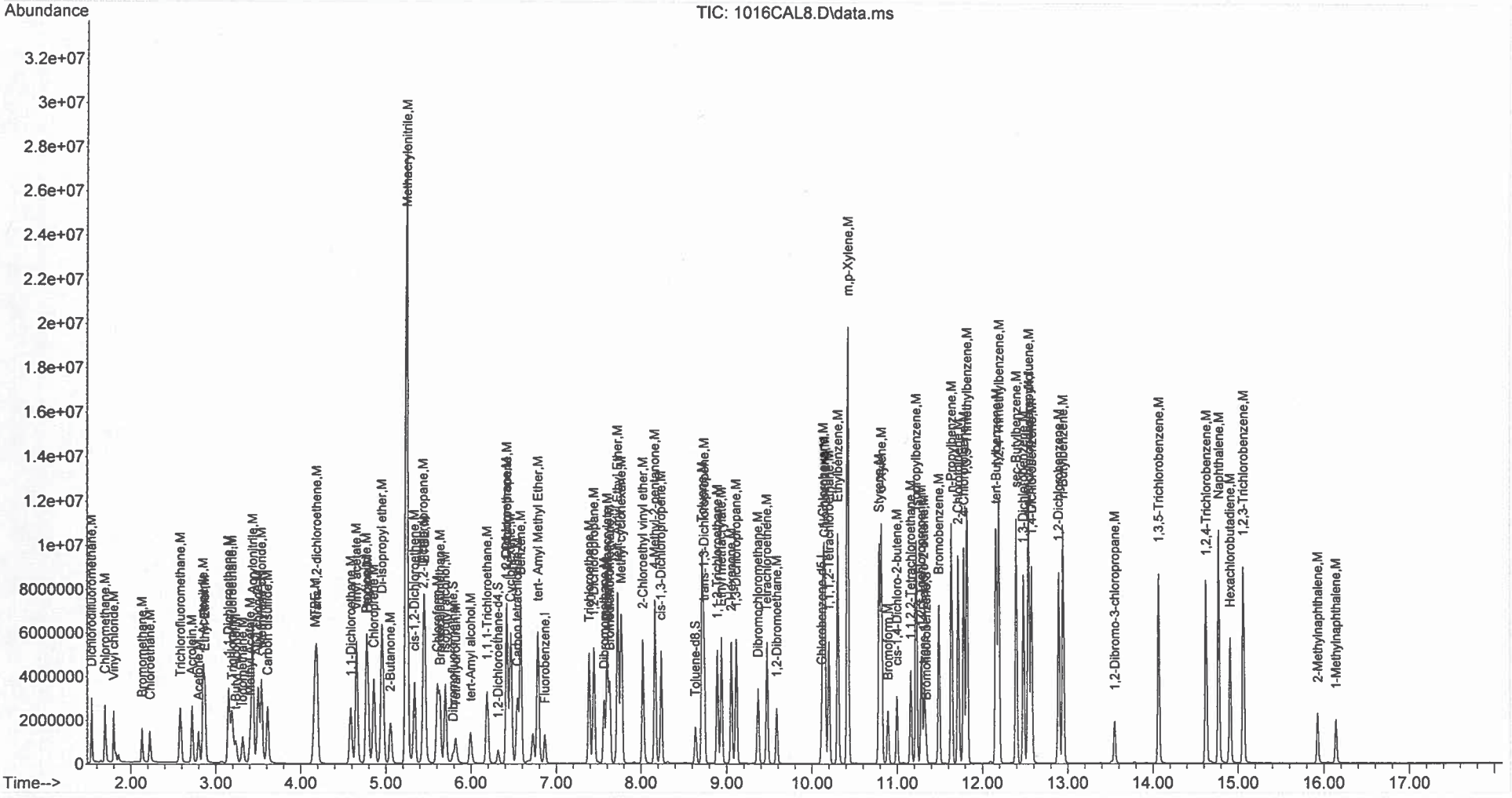
	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
96)	1,2-Dichlorobenzene	12.894	146	2945146	154.2533 ug/L	100
97)	n-Butylbenzene	12.943	91	5224681	167.7352 ug/L	99
98)	1,2-Dibromo-3-chloropr...	13.551	157	423585	141.9177 ug/L	98
99)	1,3,5-Trichlorobenzene	14.068	180	2312025	158.3757 ug/L	100
100)	1,2,4-Trichlorobenzene	14.628	180	2275057	176.1124 ug/L	100
101)	Naphthalene	14.774	128	7040745	163.0301 ug/L	100
102)	Hexachlorobutadiene	14.908	225	965685	175.7608 ug/L	99
103)	1,2,3-Trichlorobenzene	15.060	180	2370679	178.9850 ug/L	99
104)	2-Methylnaphthalene	15.930	142	965168	10.9874 ug/L	98
105)	1-Methylnaphthalene	16.143	142	839453	10.1933 ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL8.D
Acq On : 16 Oct 2014 4:16 pm
Operator :
Sample : SEQ-CAL8
Misc : 1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 17 11:03:27 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:03:13 2014
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL9.D
Acq On : 16 Oct 2014 4:41 pm
Operator :
Sample : SEQ-CAL9
Misc : 1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 17 10:58:26 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Jul 15 13:20:10 2014
Response via : Initial Calibration

10/21/14

10/22/14

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	6.865	96	967536	30.00	ug/L	-0.05
59) Chlorobenzene-d5	10.114	82	380154	30.00	ug/L	-0.04
81) 1,4-Dichlorobenzene-d4	12.547	152	360075	30.00	ug/L	#-0.04
System Monitoring Compounds						
37) Dibromofluoromethane	5.788	111	254339	30.85	ug/L	-0.05
Spiked Amount 30.000	Range 85 - 115		Recovery = 102.83%			
41) 1,2-Dichloroethane-d4	6.318	102	60503	30.33	ug/L	-0.05
Spiked Amount 30.000	Range 70 - 120		Recovery = 101.10%			
60) Toluene-d8	8.642	98	914719	30.05	ug/L	-0.04
Spiked Amount 30.000	Range 85 - 120		Recovery = 100.17%			
80) Bromofluorobenzene	11.337	95	357607	32.38	ug/L	-0.04
Spiked Amount 30.000	Range 75 - 120		Recovery = 107.93%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.536	85	1823447	253.9789	ug/L	99
3) Chloromethane	1.694	50	2670003	214.7480	ug/L	99
4) Vinyl chloride	1.798	62	1451918	175.8257	ug/L	100
5) Bromomethane	2.132	94	985542	215.2579	ug/L	100
6) Chloroethane	2.223	64	1076992	182.6402	ug/L	98
7) Trichlorofluoromethane	2.582	101	2445066	223.0726	ug/L	100
8) Acrolein	2.716	56	2333355	1566.4062	ug/L	96
9) Acetone	2.795	43	1942746	347.8101	ug/L	97
10) Acetonitrile	2.850	41	4517001	1784.0273	ug/L	99
11) Ethyl Ether	2.868	59	1637687	167.0630	ug/L	94
12) 1,1-Dichloroethene	3.148	96	1542130	204.3720	ug/L	93
13) Trichlorotrifluoroethane	3.185	101	1572582	218.6570	ug/L	100
14) Iodomethane	3.312	142	1937006	217.2836	ug/L	97
15) t-Butyl Alcohol	3.233	59	1397716	884.4370	ug/L #	90
16) Methyl Acetate	3.404	43	2578356	160.4494	ug/L	100
17) Acrylonitrile	3.434	53	6072115	1007.1426	ug/L	99
18) Allyl chloride	3.495	76	797822	171.2446	ug/L	95
19) Methylene chloride	3.537	84	1814008	199.1738	ug/L	99
20) Carbon disulfide	3.604	76	4760227	214.2272	ug/L	100
21) trans-1,2-dichloroethene	4.188	96	1678635	207.6008	ug/L	94
22) MTBE	4.170	73	5549469	190.4017	ug/L	96
23) 1,1-Dichloroethane	4.584	63	3673148	193.1259	ug/L	99
24) Vinyl acetate	4.657	43	11951037	361.9051	ug/L	99
25) Propionitrile	4.772	54	4641298	1934.9669	ug/L	99
26) Hexane	4.785	57	2101383	200.4156	ug/L	97
27) Chloroprene	4.858	53	3671733	198.4058	ug/L	99
28) Di-isopropyl ether	4.955	45	8920621	202.1523	ug/L	99
29) 2-Butanone	5.052	43	3374068	380.3144	ug/L	100
30) Methacrylonitrile	5.247	41	18648375	1773.8283	ug/L	96
31) cis-1,2-Dichloroethene	5.338	96	1889204	202.3629	ug/L	95
32) 2,2-Dichloropropane	5.442	77	2411322	177.0035	ug/L	99
33) ETBE	5.454	59	6761062	183.3501	ug/L	95
34) Chloroform	5.606	83	3238962	199.1387	ug/L	100
35) Bromochloromethane	5.636	128	904530	181.9303	ug/L	99
36) Isobutyl alcohol	5.697	42	1866434	3717.1664	ug/L	96
38) Tetrahydrofuran	5.819	72	293510	176.9666	ug/L	99

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL9.D
Acq On : 16 Oct 2014 4:41 pm
Operator :
Sample : SEQ-CAL9
Misc : 1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 17 10:58:26 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Jul 15 13:20:10 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
39) tert-Amyl alcohol	5.995	59	1109756	882.7899	ug/L		94
40) 1,1,1-Trichloroethane	6.190	97	2774104	207.9515	ug/L		98
42) 1,2-Dichloroethane	6.415	62	3146945	198.3373	ug/L		100
43) 1,1-Dichloropropene	6.421	75	2437575	211.1763	ug/L		99
44) Cyclohexane	6.464	56	3699480	192.0681	ug/L		97
45) Carbon tetrachloride	6.543	117	2357020	202.3396	ug/L		98
46) Benzene	6.585	78	7115708	202.5904	ug/L		99
47) tert- Amyl Methyl Ether	6.786	73	5337690	187.6668	ug/L		98
48) Trichloroethene	7.388	95	1894784	218.3640	ug/L		98
49) 1,2-Dichloropropane	7.443	63	2195523	193.8303	ug/L		99
50) Dibromomethane	7.559	93	1295651	202.1436	ug/L		99
51) Methyl methacrylate	7.595	41	3034628	196.4955	ug/L		99
52) 1,4-Dioxane	7.607	88	621828	4177.7604	ug/L		96
53) Bromodichloromethane	7.632	83	2585142	204.7428	ug/L		99
54) tert- Amyl Ethyl Ether	7.723	59	5437902	188.0730	ug/L		95
55) Methyl cyclohexane	7.766	83	2814067	208.2140	ug/L		96
56) 2-Chloroethyl vinyl ether	8.021	63	2472991	259.4065	ug/L		99
57) 4-Methyl-2-pentanone	8.161	43	6676864	392.7578	ug/L		98
58) cis-1,3-Dichloropropene	8.234	75	2878694	200.4840	ug/L		98
61) trans-1,3-Dichloropropene	8.739	75	2907819	198.6306	ug/L		99
62) Toluene	8.715	92	4454388	204.7874	ug/L		98
63) 1,1,2-Trichloroethane	8.891	83	1507847	202.5563	ug/L		98
64) Ethyl methacrylate	8.940	69	2744489	199.1487	ug/L		99
65) 2-Hexanone	9.055	43	4683173	399.0122	ug/L		97
66) 1,3-Dichloropropane	9.110	76	3066210	206.5716	ug/L		100
67) Dibromochloromethane	9.366	129	2035219	212.7471	ug/L		100
68) Tetrachloroethene	9.469	166	1835164	217.6354	ug/L		100
69) 1,2-Dibromoethane	9.585	107	1922282	206.5081	ug/L		100
70) 1-Chlorohexane	10.132	91	2247856	208.5562	ug/L		97
71) Chlorobenzene	10.150	112	5025783	214.5296	ug/L		99
72) 1,1,1,2-Tetrachloroethane	10.199	131	1762778	200.4754	ug/L		99
73) Ethylbenzene	10.302	91	8246903	218.5576	ug/L		98
74) m,p-Xylene	10.418	91	12366272	408.1118	ug/L		97
75) Styrene	10.789	104	5416577	217.0868	ug/L		99
76) o-Xylene	10.813	91	6959749	211.7610	ug/L		99
77) Bromoform	10.893	173	1367306	217.5531	ug/L		98
78) Isopropylbenzene	11.221	105	7747761	220.7439	ug/L		99
79) 1,2,3-Trichloropropane	11.288	110	814899	205.9386	ug/L		88
82) cis-1,4-Dichloro-2-butene	10.996	53	909979	146.2908	ug/L		99
83) 1,1,2,2-Tetrachloroethane	11.160	83	2460707	187.3144	ug/L		99
84) trans-1,4-Dichloro-2-b...	11.318	53	918287	162.8387	ug/L	#	81
85) Bromobenzene	11.489	156	2208711	201.8953	ug/L		98
86) n-Propylbenzene	11.635	91	9652098	211.3508	ug/L		99
87) 2-Chlorotoluene	11.714	91	6097693	204.2535	ug/L		100
88) 4-Chlorotoluene	11.781	91	6252976	207.4523	ug/L		98
89) 1,3,5-Trimethylbenzene	11.817	105	7278237	203.5040	ug/L		99
90) tert-Butylbenzene	12.164	119	7190983	201.1496	ug/L		98
91) 1,2,4-Trimethylbenzene	12.194	105	7634543	201.5055	ug/L		99
92) sec-Butylbenzene	12.395	105	8957616	212.0166	ug/L		99
93) 1,3-Dichlorobenzene	12.480	146	4026529	218.9599	ug/L		99
94) 1,4-Dichlorobenzene	12.578	146	4108324	224.8030	ug/L		99
95) p-Isopropyltoluene	12.541	119	7751085	207.5216	ug/L		99

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL9.D
Acq On : 16 Oct 2014 4:41 pm
Operator :
Sample : SEQ-CAL9
Misc : 1
ALS Vial : 12 Sample Multiplier: 1

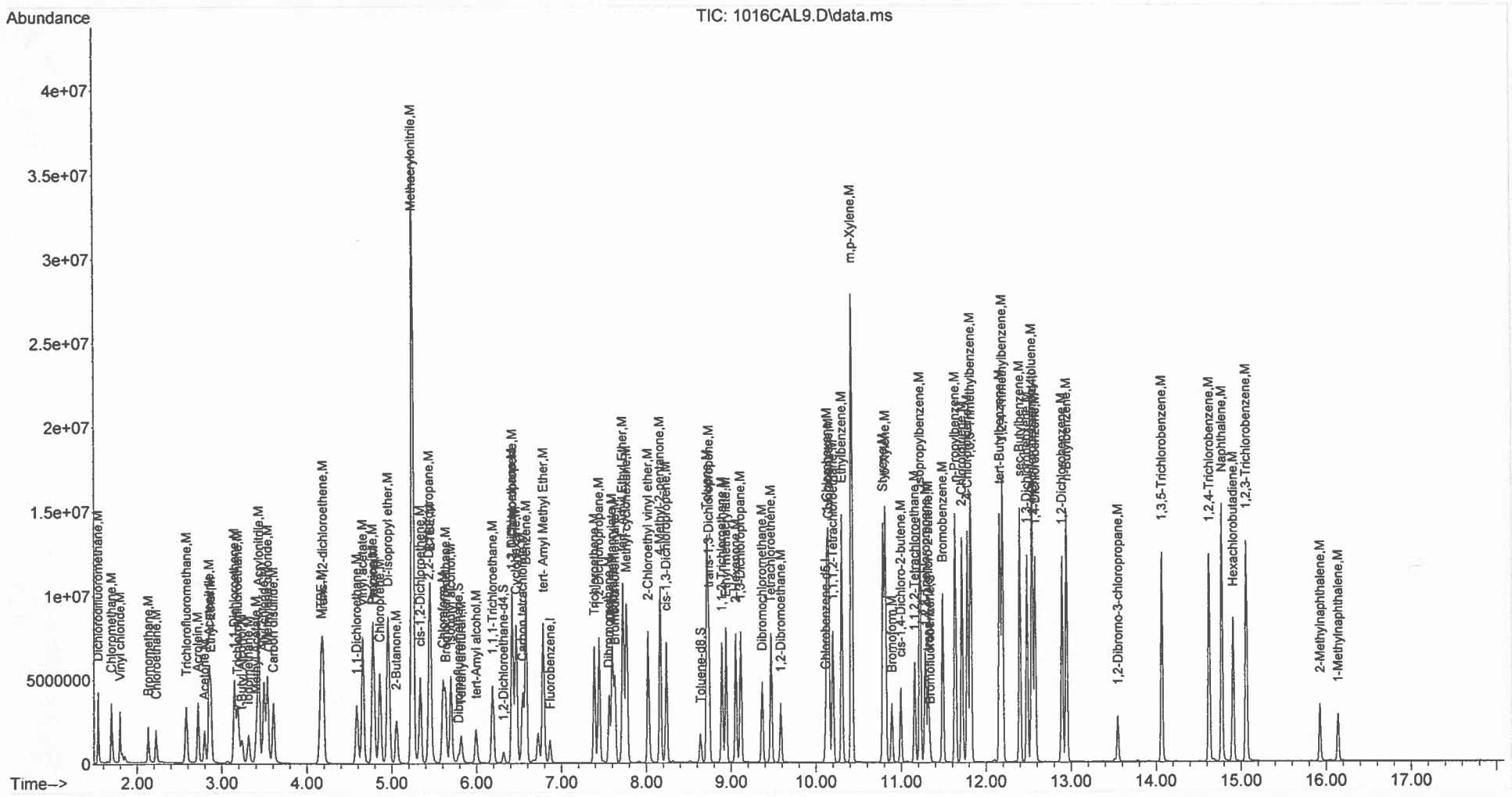
Quant Time: Oct 17 10:58:26 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Jul 15 13:20:10 2014
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
96)	1,2-Dichlorobenzene	12.894	146	4051978	213.8085	ug/L	100
97)	n-Butylbenzene	12.949	91	7121693	229.8575	ug/L	99
98)	1,2-Dibromo-3-chloropr...	13.551	157	581424	193.6022	ug/L	97
99)	1,3,5-Trichlorobenzene	14.068	180	3282753	224.3378	ug/L	100
100)	1,2,4-Trichlorobenzene	14.628	180	3309618	256.5285	ug/L	99
101)	Naphthalene	14.774	128	10043373	231.9166	ug/L	100
102)	Hexachlorobutadiene	14.908	225	1393883	256.2945	ug/L	99
103)	1,2,3-Trichlorobenzene	15.060	180	3494973	265.9355	ug/L	99
104)	2-Methylnaphthalene	15.930	142	1389251	13.8199	ug/L	100
105)	1-Methylnaphthalene	16.143	142	1224258	13.1324	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL9.D
Acq On : 16 Oct 2014 4:41 pm
Operator :
Sample : SEQ-CAL9
Misc : 1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 17 10:58:26 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Jul 15 13:20:10 2014
Response via : Initial Calibration



139
1501124

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016ICV2.D
Acq On : 16 Oct 2014 5:56 pm
Operator :
Sample : SEQ-ICV2
Misc : 1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Oct 21 13:26:47 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

10/24/14

SP 10/22/14

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorobenzene	6.865	96	970947	30.00 ug/L	0.00
59) Chlorobenzene-d5	10.114	82	388508	30.00 ug/L	0.00
81) 1,4-Dichlorobenzene-d4	12.547	152	371740	30.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	5.789	111	257107	28.84 ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 96.13%		
41) 1,2-Dichloroethane-d4	6.318	102	62461	28.91 ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 96.37%		
60) Toluene-d8	8.636	98	932254	30.07 ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 100.23%		
80) Bromofluorobenzene	11.337	95	360363	31.05 ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 103.50%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.536	85	898666	97.1542 ug/L	97
3) Chloromethane	1.694	50	1376762	94.5681 ug/L	100
4) Vinyl chloride	1.798	62	728242	87.4660 ug/L	99
5) Bromomethane	2.132	94	500166	104.0886 ug/L	98
6) Chloroethane	2.224	64	473655	86.0521 ug/L	100
7) Trichlorofluoromethane	2.576	101	1251713	96.8070 ug/L	99
8) Acrolein	2.716	56	1137452	480.5907 ug/L	99
9) Acetone	2.795	43	961547	168.7898 ug/L	97
10) Acetonitrile	2.850	41	2414861	941.3290 ug/L	100
11) Ethyl Ether	2.868	59	929655	104.8028 ug/L	98
12) 1,1-Dichloroethene	3.148	96	687069	88.4482 ug/L	100
13) Trichlorotrifluoroethane	3.185	101	779497	94.8548 ug/L	100
14) Iodomethane	3.313	142	895210	91.7432 ug/L	98
15) t-Butyl Alcohol	3.233	59	636961	471.5916 ug/L	97
16) Methyl Acetate	3.404	43	1226340	85.8459 ug/L	100
17) Acrylonitrile	3.428	53	3095908	484.9287 ug/L	100
18) Allyl chloride	3.495	76	399630	90.5466 ug/L	95
19) Methylene chloride	3.538	84	909039	99.5233 ug/L	99
20) Carbon disulfide	3.604	76	2245847	91.8785 ug/L	100
21) trans-1,2-dichloroethene	4.189	96	797836	90.7545 ug/L	98
22) MTBE	4.170	73	2764991	99.8917 ug/L	99
23) 1,1-Dichloroethane	4.584	63	1833846	95.5693 ug/L	99
24) Vinyl acetate	4.657	43	6000553	210.6990 ug/L	100
25) Propionitrile	4.773	54	2230634	940.9535 ug/L	100
26) Hexane	4.785	57	851422	92.0189 ug/L	99
27) Chloroprene	4.858	53	1750814	101.2743 ug/L	99
28) Di-isopropyl ether	4.955	45	4073301	90.9220 ug/L	100
29) 2-Butanone	5.052	43	1667488	191.8275 ug/L	99
30) Methacrylonitrile	5.241	41	10254985	963.9581 ug/L	100
31) cis-1,2-Dichloroethene	5.332	96	943322	96.0735 ug/L	100
32) 2,2-Dichloropropane	5.442	77	1142977	90.3986 ug/L	100
33) ETBE	5.454	59	3189557	94.7763 ug/L	99
34) Chloroform	5.600	83	1638798	93.1039 ug/L	99
35) Bromochloromethane	5.630	128	463581	89.1219 ug/L	100
36) Isobutyl alcohol	5.697	42	873543	2117.6185 ug/L	95
38) Tetrahydrofuran	5.819	72	145132	91.8434 ug/L	96

* $\frac{687069}{970947} = \frac{0.707827027 \times 30}{0.24001} = 88.46$ ✓

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016ICV2.D
Acq On : 16 Oct 2014 5:56 pm
Operator :
Sample : SEQ-ICV2
Misc : 1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Oct 21 13:26:47 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
39) tert-Amyl alcohol	5.995	59	540181	549.8176	ug/L	98
40) 1,1,1-Trichloroethane	6.190	97	1378686	96.4913	ug/L	100
42) 1,2-Dichloroethane	6.415	62	1585254	95.4575	ug/L	99
43) 1,1-Dichloropropene	6.421	75	1176465	100.1190	ug/L	100
44) Cyclohexane	6.464	56	1740767	100.2009	ug/L	100
45) Carbon tetrachloride	6.543	117	1137712	102.0992	ug/L	99
46) Benzene	6.579	78	3580247	97.7983	ug/L	100
47) tert- Amyl Methyl Ether	6.786	73	2743254	107.9996	ug/L	99
48) Trichloroethene	7.388	95	926081	96.7491	ug/L	99
49) 1,2-Dichloropropane	7.443	63	1102157	96.2694	ug/L	99
50) Dibromomethane	7.559	93	639377	93.0985	ug/L	98
51) Methyl methacrylate	7.595	41	1512073	109.9432	ug/L	100
52) 1,4-Dioxane	7.607	88	281753	1834.1921	ug/L	99
53) Bromodichloromethane	7.632	83	1239520	94.1035	ug/L	99
54) tert- Amyl Ethyl Ether	7.723	59	2401703	93.7505	ug/L	99
55) Methyl cyclohexane	7.766	83	1322780	101.7113	ug/L	99
56) 2-Chloroethyl vinyl ether	8.021	63	1293436	206.8211	ug/L	100
57) 4-Methyl-2-pentanone	8.161	43	3374757	205.4992	ug/L	99
58) cis-1,3-Dichloropropene	8.234	75	1494008	109.5923	ug/L	99
61) trans-1,3-Dichloropropene	8.739	75	1305048	98.2168	ug/L	98
62) Toluene	8.715	92	2226665	98.8181	ug/L	99
63) 1,1,2-Trichloroethane	8.891	83	778858	96.6140	ug/L	99
64) Ethyl methacrylate	8.940	69	1421221	114.7579	ug/L	99
65) 2-Hexanone	9.055	43	2328007	207.7431	ug/L	99
66) 1,3-Dichloropropane	9.110	76	1589791	99.5047	ug/L	99
67) Dibromochloromethane	9.366	129	985140	103.1951	ug/L	99
68) Tetrachloroethene	9.469	166	903015	101.1613	ug/L	99
69) 1,2-Dibromoethane	9.585	107	956028	99.6128	ug/L	98
70) 1-Chlorohexane	10.132	91	1135889	114.0100	ug/L	99
71) Chlorobenzene	10.150	112	2492458	99.5145	ug/L	99
72) 1,1,1,2-Tetrachloroethane	10.199	131	880128	100.5056	ug/L	99
73) Ethylbenzene	10.303	91	4205784	107.6406	ug/L	99
74) m,p-Xylene	10.418	91	6448788	208.5388	ug/L	100
75) Styrene	10.789	104	2809449	117.9331	ug/L	98
76) o-Xylene	10.814	91	3497057	105.0304	ug/L	98
77) Bromoform	10.893	173	652571	107.4598	ug/L	100
78) Isopropylbenzene	11.221	105	4045615	115.2324	ug/L	100
79) 1,2,3-Trichloropropane	11.282	110	405207	92.8345	ug/L	99
82) cis-1,4-Dichloro-2-butene	10.996	53	493882	118.2583	ug/L	99
83) 1,1,2,2-Tetrachloroethane	11.160	83	1220147	94.1080	ug/L	99
84) trans-1,4-Dichloro-2-b...	11.318	53	475793	107.8628	ug/L	98
85) Bromobenzene	11.489	156	1073970	98.3824	ug/L	99
86) n-Propylbenzene	11.635	91	4789240	107.4830	ug/L	100
87) 2-Chlorotoluene	11.714	91	2966432	100.5320	ug/L	100
88) 4-Chlorotoluene	11.781	91	3140315	109.2688	ug/L	99
89) 1,3,5-Trimethylbenzene	11.817	105	3772671	113.6306	ug/L	100
90) tert-Butylbenzene	12.164	119	3608654	108.3470	ug/L	98
91) 1,2,4-Trimethylbenzene	12.195	105	3804307	109.6703	ug/L	99
92) sec-Butylbenzene	12.395	105	4469098	109.6788	ug/L	99
93) 1,3-Dichlorobenzene	12.480	146	2007020	102.8686	ug/L	100
94) 1,4-Dichlorobenzene	12.578	146	2070070	103.4086	ug/L	100
95) p-Isopropyltoluene	12.541	119	3939194	112.7085	ug/L	99

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016ICV2.D
Acq On : 16 Oct 2014 5:56 pm
Operator :
Sample : SEQ-ICV2
Misc : 1
ALS Vial : 15 Sample Multiplier: 1

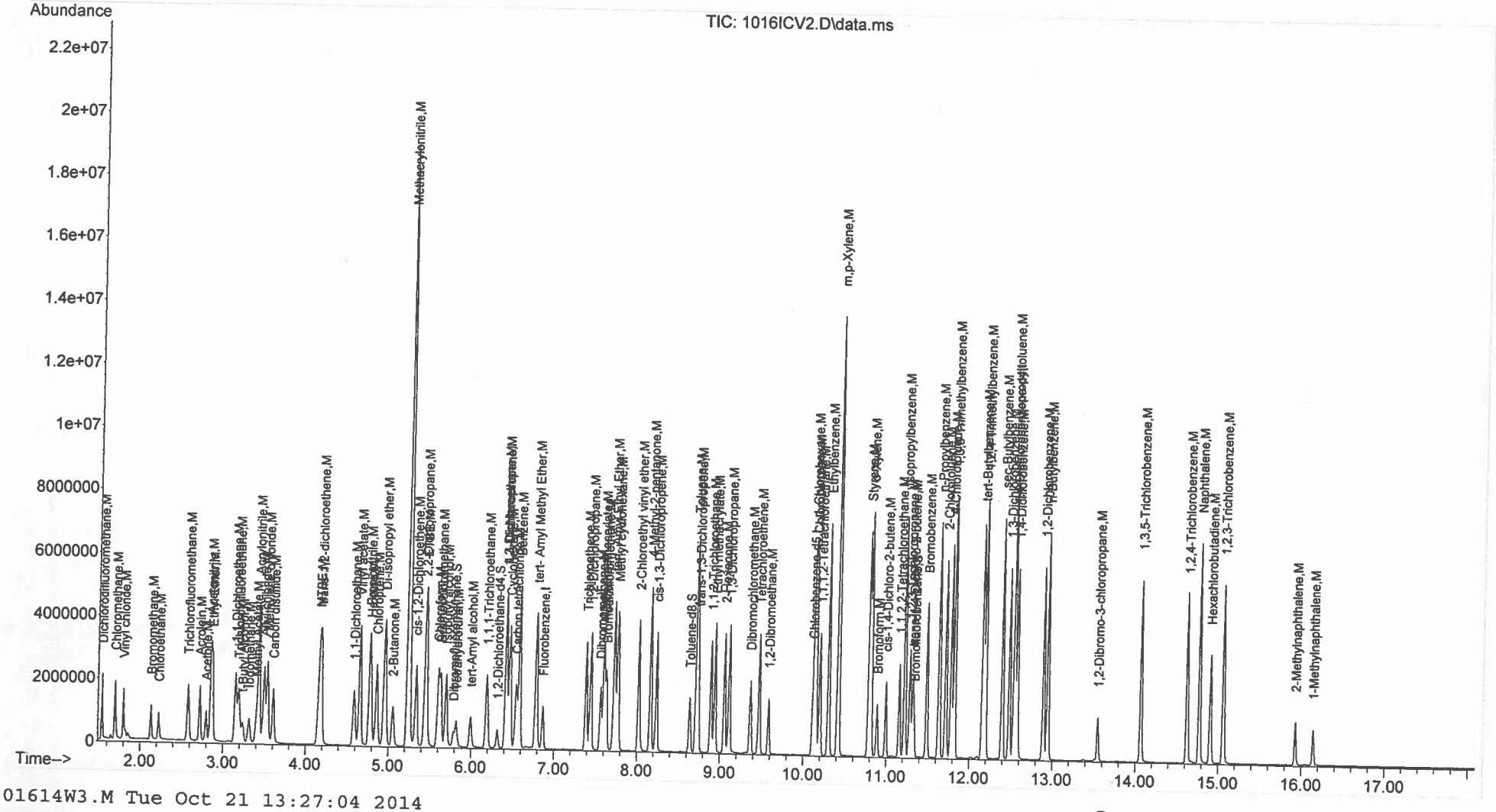
Quant Time: Oct 21 13:26:47 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
96)	1,2-Dichlorobenzene	12.894	146	2024486	100.4264 ug/L	99
97)	n-Butylbenzene	12.943	91	3426209	94.4432 ug/L	100
98)	1,2-Dibromo-3-chloropr...	13.551	157	293274	110.1069 ug/L	100
99)	1,3,5-Trichlorobenzene	14.068	180	1532067	93.9617 ug/L	99
100)	1,2,4-Trichlorobenzene	14.628	180	1436239	89.1048 ug/L	99
101)	Naphthalene	14.774	128	4570212	92.2278 ug/L	100
102)	Hexachlorobutadiene	14.908	225	573986	96.2418 ug/L	98
103)	1,2,3-Trichlorobenzene	15.060	180	1493946	88.2581 ug/L	99
104)	2-Methylnaphthalene	15.930	142	552398	25.1625 ug/L	97
105)	1-Methylnaphthalene	16.143	142	468075	24.1548 ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016ICV2.D
Acq On : 16 Oct 2014 5:56 pm
Operator :
Sample : SEQ-ICV2
Misc : 1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Oct 21 13:26:47 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration



101614W3.M Tue Oct 21 13:27:04 2014

Sequence Name: C:\msdchem\1\sequence\020615V3.s
Comment: 8260B/C
Operator:
Data Path: C:\MSDCHEM\1\DATA\020615V3\
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:
Data Analysis Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line		Sample Name/Misc Info			
1)	Sample	31	PRIMER	VW3SUR	PRIMER
2)	Sample	1	0206TUN1	VW3SUR	SEQ-TUN1
3)	Sample	2	0206CCV1	VW3SUR	SEQ-CCV1
4)	Sample	3	0206LCS1	VW3SUR	5B06-BS1 (5B06004-BS1)
5)	Sample	4	BLANK	VW3SUR	BLANK
6)	Sample	5	0206RL1	VW3SUR	SEQ-LCV1
7)	Sample	6	BLANK1	VW3SUR	BLANK1
8)	Sample	7	0206BLK1	VW3SUR	5B06004-BLK1
9)	Sample	8	0201203A	VW3SUR	1502012-03
10)	Sample	9	0112402A	VW3SUR	1501124-02
11)	Sample	10	0202603A	VW3SUR	1502026-03
12)	Sample	11	0201202B	VW3SUR	1502012-02
13)	Sample	12	0201201B	VW3SUR	1502012-01
14)	Sample	13	0111704B	VW3SUR	1501117-04
15)	Sample	14	0111705B	VW3SUR	1501117-05
16)	Sample	15	BLANK2	VW3SUR	BLANK2
17)	Sample	16	0114001A	VW3SUR	1501140-01
18)	Sample	17	0112401B	VW3SUR	1501124-01
19)	Sample	18	0112403B	VW3SUR	1501124-03
20)	Sample	19	0112404B	VW3SUR	1501124-04
21)	Sample	20	0112405B	VW3SUR	1501124-05
22)	Sample	21	0202601B	VW3SUR	1502026-01
23)	Sample	22	0202602B	VW3SUR	1502026-02
24)	Sample	23	0113901B	VW3SUR	1501139-01
25)	Sample	24	0114002B	VW3SUR	1501140-02
26)	Sample	25	0202601M	VW3SUR	5B06004-MS1
27)	Sample	26	0202601S	VW3SUR	5B06004-MSD1
28)	Sample	27	0206HCV1	VW3SUR	SEQ-HCV1

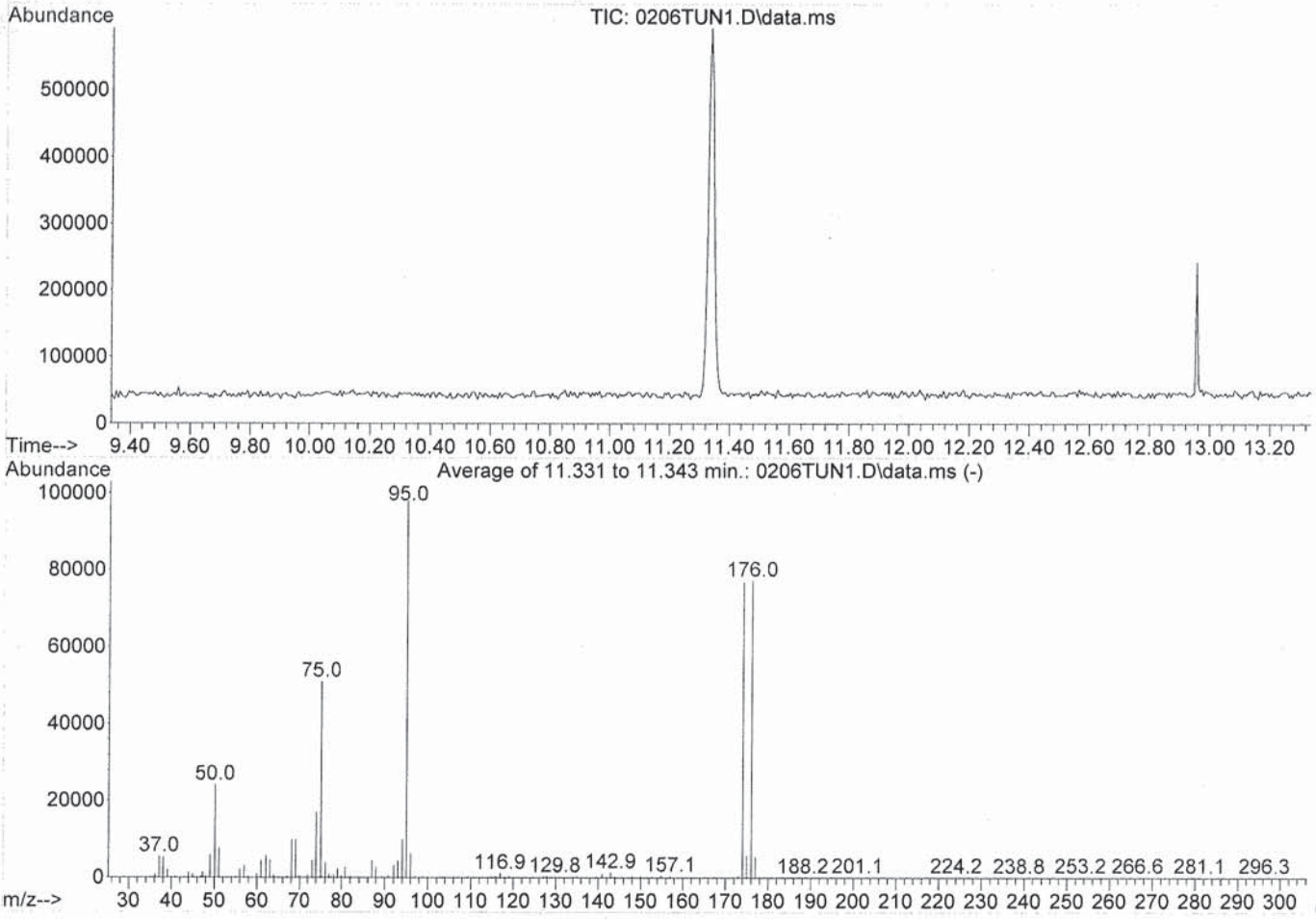
14)	2.5XT
15)	5X-F/T
16)	5X-F/T
23)	2X-LF
26)	2X-LF (B/C)
27)	2X-LF (B/C)

Last Modified: Fri Feb 06 12:46:56 2015

Data Path : C:\msdchem\1\DATA\020615V3\
Data File : 0206TUN1.D
Acq On : 6 Feb 2015 7:21 am
Operator :
Sample : SEQ-TUN1
Misc : 1
ALS Vial : 1 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\METHODS\101614W3.M
Title : 8260B/C
Last Update : Tue Oct 21 13:26:09 2014



AutoFind: Scans 1619, 1620, 1621; Background Corrected with Scan 1610

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	24.6	24133	PASS
75	95	30	60	52.0	50944	PASS
95	95	100	100	100.0	97947	PASS
96	95	5	9	6.4	6247	PASS
173	174	0.00	2	0.7	513	PASS
174	95	50	100	78.5	76880	PASS
175	174	5	9	7.5	5755	PASS
176	174	95	101	100.5	77226	PASS
177	176	5	9	7.0	5404	PASS

02/10/15

SEQ-TUN1
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.20	75	46.00	218	52.95	95	62.10	5647
36.10	921	46.70	379	53.40	41	63.05	4565
37.05	5489	47.00	300	53.70	28	63.80	661
38.00	5331	47.25	1333	54.00	238	64.20	344
39.00	2101	47.50	219	54.90	173	64.70	21
40.90	156	48.05	456	55.15	146	64.95	190
41.60	63	49.00	5976	55.95	2092	65.20	59
42.85	230	50.05	24133	57.00	3041	66.10	68
44.00	1338	51.05	7735	57.90	394	66.85	318
44.95	847	52.00	254	59.90	1159	67.10	263
45.30	315	52.30	96	60.95	4454	68.05	9852

Average of 11.331 to 11.343 min.: 0206TUN1.D\data.ms
SEQ-TUN1
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
69.00	9925	75.00	50944	82.20	357	93.00	4418
69.75	509	76.05	3925	85.10	32	94.05	9929
70.10	346	76.70	339	85.40	56	95.00	97947
70.45	27	76.95	928	86.00	27	96.00	6247
70.80	67	77.95	637	86.95	4407	97.05	220
71.05	106	78.95	2350	87.95	2651	97.80	40
71.50	95	79.80	485	89.00	105	98.50	22
72.00	534	80.00	278	89.40	141	99.00	149
72.20	127	80.20	11	90.60	164	101.20	25
73.15	4491	80.85	2742	90.90	463	103.40	205
74.05	17000	81.80	296	92.05	3088	104.00	333

Average of 11.331 to 11.343 min.: 0206TUN1.D\data.ms
SEQ-TUN1
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
104.75	111	114.75	151	124.80	115	130.80	57
105.70	93	115.30	15	125.70	29	131.00	14
106.00	196	115.90	408	126.00	43	131.30	54
106.30	146	116.90	1106	126.70	32	133.60	27
107.05	56	117.80	187	127.00	220	134.20	146
109.30	120	118.20	65	127.85	472	134.95	289
109.55	109	119.00	341	128.50	67	135.60	39
109.90	18	119.90	42	128.80	44	136.00	45
112.20	73	121.00	53	129.10	142	137.10	48
112.70	45	122.60	66	129.50	15	137.30	73
113.30	87	123.90	108	129.85	253	138.40	79

Average of 11.331 to 11.343 min.: 0206TUN1.D\data.ms
SEQ-TUN1
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
139.60	189	145.50	37	152.80	159	164.40	14
139.90	16	145.90	138	154.20	16	164.80	106
140.10	105	146.85	38	154.85	489	165.30	239
140.80	164	147.80	53	156.10	95	165.90	123
140.95	1029	148.05	344	157.05	426	166.10	54
142.10	84	149.00	69	158.30	37	166.70	82
142.95	1281	150.05	335	159.10	113	167.10	139
143.90	160	150.30	60	160.30	26	167.55	140
144.30	107	150.80	16	161.00	64	168.20	72
144.75	48	152.00	36	161.60	15	168.40	30
145.20	51	152.30	16	163.40	35	169.15	152

Average of 11.331 to 11.343 min.: 0206TUN1.D\data.ms
SEQ-TUN1
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
169.70	83	177.95	177	201.05	117	212.70	117
170.85	81	179.40	25	201.40	45	215.90	37
171.20	117	181.40	21	201.90	25	218.60	26
171.50	128	182.50	16	204.50	64	220.80	19
172.00	249	183.90	52	205.40	36	221.60	27
172.70	155	188.20	32	206.00	14	221.95	67

174.00	76880	192.40	20	206.80	48	230.10	48
174.95	5755	196.20	31	207.70	13	230.90	19
176.00	77226	199.80	16	208.00	45	231.60	19
176.95	5404	200.35	83	208.90	106	234.60	53

Average of 11.331 to 11.343 min.: 0206TUN1.D\data.ms
SEQ-TUN1
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
238.00	15	251.90	34	267.80	58	283.00	47
238.80	26	252.50	33	269.90	25	289.60	44
240.60	24	253.20	109	274.50	46	296.30	93
240.90	21	254.80	87	275.45	63		
245.10	14	257.20	64	275.90	63		
245.40	77	258.40	45	278.20	39		
246.20	53	262.30	17	278.60	22		
247.70	27	264.70	28	279.90	34		
248.35	97	265.90	23	281.10	121		
249.35	8	266.30	71	281.60	15		
250.30	92	266.65	95	282.10	108		

Data Path : C:\msdchem\1\DATA\020615V3\
Data File : 0206CCV1.D
Acq On : 6 Feb 2015 7:50 am
Operator :
Sample : SEQ-CCV1
Misc : 1
ALS Vial : 2 Sample Multiplier: 1

2/6/15

Quant Time: Feb 06 08:29:14 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	6.865	96	1096200	30.00	ug/L	0.00
59) Chlorobenzene-d5	10.114	82	494058	30.00	ug/L	0.00
81) 1,4-Dichlorobenzene-d4	12.547	152	441462	30.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	5.788	111	295235	29.33	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 97.77%			
41) 1,2-Dichloroethane-d4	6.318	102	70296	28.81	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 96.03%			
60) Toluene-d8	8.642	98	1107603	28.10	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 93.67%			
80) Bromofluorobenzene	11.337	95	431458	29.23	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 97.43%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.542	85	1375634	131.7262	ug/L	97
3) Chloromethane	1.694	50	1601413	97.4305	ug/L	100
4) Vinyl chloride	1.798	62	1055991	112.3387	ug/L	98
5) Bromomethane	2.132	94	581711	107.2264	ug/L	99
6) Chloroethane	2.223	64	684820	110.2000	ug/L	98
7) Trichlorofluoromethane	2.582	101	1651503	113.1324	ug/L	99
8) Acrolein	2.716	56	1135501	424.9478	ug/L	99
9) Acetone	2.795	43	1388161	215.8347	ug/L	97
10) Acetonitrile	2.850	41	2275464	785.6425	ug/L	98
11) Ethyl Ether	2.868	59	1007289	100.5798	ug/L	93
12) 1,1-Dichloroethene	3.148	96	850061	96.9269	ug/L	89
13) Trichlorotrifluoroethane	3.191	101	951156	102.5185	ug/L	98
14) Iodomethane	3.312	142	1207672	109.6235	ug/L	96
15) t-Butyl Alcohol	3.233	59	637954	418.3582	ug/L	94
16) Methyl Acetate	3.404	43	1221667	75.7473	ug/L	96
17) Acrylonitrile	3.434	53	2964304	411.2617	ug/L	99
18) Allyl chloride	3.495	76	510408	102.4324	ug/L	88
19) Methylene chloride	3.537	84	996917	96.6734	ug/L	94
20) Carbon disulfide	3.610	76	2711012	98.2361	ug/L	99
21) trans-1,2-dichloroethene	4.188	96	892257	89.8980	ug/L	87
22) MTBE	4.164	73	3115487	99.6936	ug/L	95
23) 1,1-Dichloroethane	4.590	63	2213067	102.1541	ug/L	98
24) Vinyl acetate	4.657	43	6082712	189.1795	ug/L	98
25) Propionitrile	4.772	54	2291123	856.0398	ug/L	99
26) Hexane	4.785	57	1319299	126.2935	ug/L	93
27) Chloroprene	4.864	53	2153982	110.3588	ug/L	100
28) Di-isopropyl ether	4.955	45	4725300	93.4238	ug/L	97
29) 2-Butanone	5.052	43	1812530	184.6882	ug/L	96
30) Methacrylonitrile	5.241	41	10029850	835.0708	ug/L	93
31) cis-1,2-Dichloroethene	5.338	96	1076469	97.1071	ug/L	93
32) 2,2-Dichloropropane	5.442	77	1615725	113.1872	ug/L	95
33) ETBE	5.454	59	3930398	103.4455	ug/L	96
34) Chloroform	5.606	83	1922003	96.7169	ug/L	98
35) Bromochloromethane	5.636	128	489158	83.2940	ug/L	97
36) Isobutyl alcohol	5.697	42	840834	1805.4249	ug/L	99
38) Tetrahydrofuran	5.819	72	142358	79.7944	ug/L	84

02/10/15

Data Path : C:\msdchem\1\DATA\020615V3\
Data File : 0206CCV1.D
Acq On : 6 Feb 2015 7:50 am
Operator :
Sample : SEQ-CCV1
Misc : 1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Feb 06 08:29:14 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
39) tert-Amyl alcohol	5.989	59	532725	480.2730	ug/L		96
40) 1,1,1-Trichloroethane	6.190	97	1747465	108.3271	ug/L		99
42) 1,2-Dichloroethane	6.415	62	1912946	102.0280	ug/L		99
43) 1,1-Dichloropropene	6.421	75	1482261	111.7296	ug/L		98
44) Cyclohexane	6.470	56	2044757	104.2505	ug/L		96
45) Carbon tetrachloride	6.543	117	1518568	120.7063	ug/L		99
46) Benzene	6.585	78	4045514	97.8808	ug/L		100
47) tert- Amyl Methyl Ether	6.786	73	3042318	106.0881	ug/L		99
48) Trichloroethene	7.388	95	1033778	95.6602	ug/L		94
49) 1,2-Dichloropropane	7.443	63	1247877	96.5434	ug/L		95
50) Dibromomethane	7.565	93	725628	93.5848	ug/L		98
51) Methyl methacrylate	7.601	41	1479936	95.3113	ug/L		97
52) 1,4-Dioxane	7.607	88	305777	1763.1401	ug/L		94
53) Bromodichloromethane	7.632	83	1453663	97.7511	ug/L		99
54) tert- Amyl Ethyl Ether	7.723	59	3180265	109.9571	ug/L		99
55) Methyl cyclohexane	7.772	83	1658204	112.9342	ug/L		99
56) 2-Chloroethyl vinyl ether	8.021	63	1262251	178.7728	ug/L		99
57) 4-Methyl-2-pentanone	8.161	43	3259249	175.7887	ug/L		96
58) cis-1,3-Dichloropropene	8.234	75	1815436	117.9543	ug/L		94
61) trans-1,3-Dichloropropene	8.739	75	1811467	107.2041	ug/L		88
62) Toluene	8.721	92	2557958	89.2683	ug/L		97
63) 1,1,2-Trichloroethane	8.891	83	829514	80.9147	ug/L		98
64) Ethyl methacrylate	8.940	69	1542299	97.9291	ug/L		89
65) 2-Hexanone	9.055	43	2491706	174.8482	ug/L		96
66) 1,3-Dichloropropane	9.110	76	1791067	88.1531	ug/L		100
67) Dibromochloromethane	9.366	129	1153838	95.0447	ug/L		100
68) Tetrachloroethene	9.475	166	1096040	96.5534	ug/L		97
69) 1,2-Dibromoethane	9.585	107	1051975	86.1930	ug/L		99
70) 1-Chlorohexane	10.132	91	1377936	108.7572	ug/L		97
71) Chlorobenzene	10.150	112	2790032	87.5971	ug/L		95
72) 1,1,1,2-Tetrachloroethane	10.199	131	1044280	93.7742	ug/L		98
73) Ethylbenzene	10.302	91	4995900	100.5461	ug/L		97
74) m,p-Xylene	10.418	91	7773993	197.6855	ug/L		97
75) Styrene	10.789	104	3258460	107.5595	ug/L		93
76) o-Xylene	10.820	91	4236978	100.0669	ug/L		97
77) Bromoform	10.893	173	867133	112.2861	ug/L		98
78) Isopropylbenzene	11.221	105	5025568	112.5634	ug/L		96
79) 1,2,3-Trichloropropane	11.288	110	437677	78.8512	ug/L		96
82) cis-1,4-Dichloro-2-butene	10.996	53	631586	127.3465	ug/L	#	84
83) 1,1,2,2-Tetrachloroethane	11.160	83	1412243	91.7213	ug/L		97
84) trans-1,4-Dichloro-2-b...	11.318	53	600788	114.6887	ug/L		89
85) Bromobenzene	11.489	156	1244977	96.0356	ug/L		95
86) n-Propylbenzene	11.641	91	5913776	111.7594	ug/L		97
87) 2-Chlorotoluene	11.720	91	3713489	105.9737	ug/L		96
88) 4-Chlorotoluene	11.781	91	3982086	116.6755	ug/L		94
89) 1,3,5-Trimethylbenzene	11.823	105	4520238	114.6446	ug/L		93
90) tert-Butylbenzene	12.164	119	4050154	102.3975	ug/L		94
91) 1,2,4-Trimethylbenzene	12.194	105	4682878	113.6769	ug/L		95
92) sec-Butylbenzene	12.401	105	5489712	113.4484	ug/L		99
93) 1,3-Dichlorobenzene	12.486	146	2321485	100.1943	ug/L		99
94) 1,4-Dichlorobenzene	12.578	146	2365205	99.4915	ug/L		98
95) p-Isopropyltoluene	12.541	119	4516910	108.8270	ug/L		96

Data Path : C:\msdchem\1\DATA\020615V3\
Data File : 0206CCV1.D
Acq On : 6 Feb 2015 7:50 am
Operator :
Sample : SEQ-CCV1
Misc : 1
ALS Vial : 2 Sample Multiplier: 1

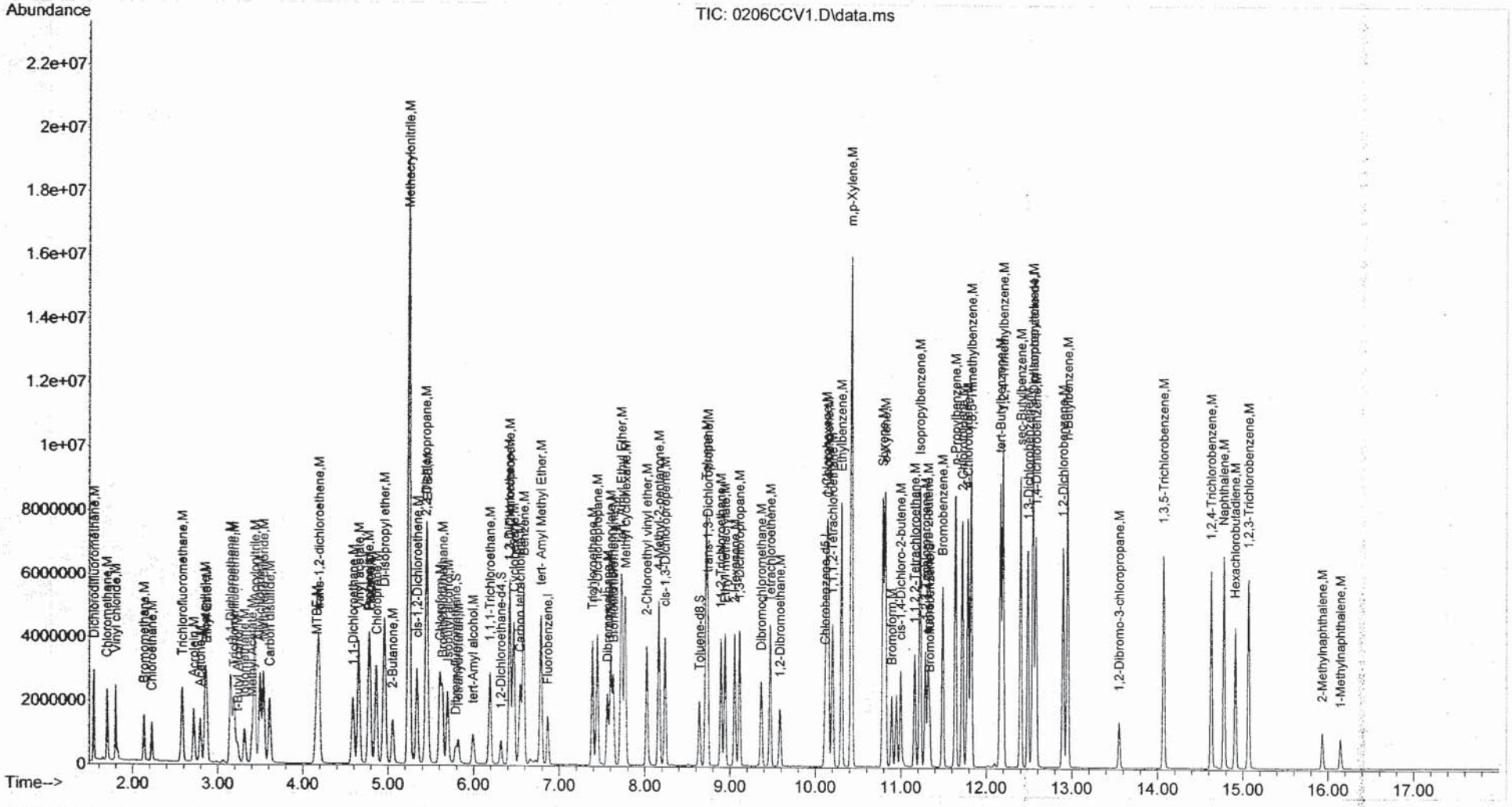
Quant Time: Feb 06 08:29:14 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
96)	1,2-Dichlorobenzene	12.894	146	2326073	97.1633	ug/L	100
97)	n-Butylbenzene	12.949	91	4381166	101.6934	ug/L	99
98)	1,2-Dibromo-3-chloropr...	13.551	157	312977	98.9463	ug/L	90
99)	1,3,5-Trichlorobenzene	14.068	180	1827095	94.3583	ug/L	98
100)	1,2,4-Trichlorobenzene	14.628	180	1649200	86.1576	ug/L	100
101)	Naphthalene	14.774	128	4322512	73.4527	ug/L	100
102)	Hexachlorobutadiene	14.908	225	704996	99.5394	ug/L	99
103)	1,2,3-Trichlorobenzene	15.066	180	1558447	77.5278	ug/L	99
104)	2-Methylnaphthalene	15.930	142	453802	18.9740	ug/L	97
105)	1-Methylnaphthalene	16.143	142	391952	18.3569	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\020615V3\
Data File : 0206CCV1.D
Acq On : 6 Feb 2015 7:50 am
Operator :
Sample : SEQ-CCV1
Misc : 1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Feb 06 08:29:14 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration



101614W3.M Fri Feb 06 08:30:09 2015 Page: 4

Data Path : C:\msdchem\1\DATA\020615V3\
Data File : 0206LCS1.D
Acq On : 6 Feb 2015 8:18 am
Operator :
Sample : 5B06004-BS1
Misc : 1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 06 10:57:38 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	6.865	96	1152763	30.00	ug/L	0.00
59) Chlorobenzene-d5	10.114	82	499067	30.00	ug/L	0.00
81) 1,4-Dichlorobenzene-d4	12.547	152	447225	30.00	ug/L	# 0.00
System Monitoring Compounds						
37) Dibromofluoromethane	5.788	111	300113	28.35	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 94.50%			
41) 1,2-Dichloroethane-d4	6.318	102	68014	26.51	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 88.37%			
60) Toluene-d8	8.642	98	1129787	28.37	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 94.57%			
80) Bromofluorobenzene	11.337	95	439035	29.45	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 98.17%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.536	85	635612	57.8777	ug/L	99
3) Chloromethane	1.694	50	810595	46.8970	ug/L	100
4) Vinyl chloride	1.798	62	526081	53.2196	ug/L	96
5) Bromomethane	2.132	94	299685	52.5302	ug/L	99
6) Chloroethane	2.223	64	294589	45.0787	ug/L	100
7) Trichlorofluoromethane	2.582	101	816224	53.1700	ug/L	99
8) Acrolein	2.716	56	559941	199.2692	ug/L	98
9) Acetone	2.795	43	841785	124.4607	ug/L	97
10) Acetonitrile	2.850	41	1196564	392.8626	ug/L	100
11) Ethyl Ether	2.868	59	506086	48.0541	ug/L	94
12) 1,1-Dichloroethene	3.148	96	396804	43.0249	ug/L	91
13) Trichlorotrifluoroethane	3.185	101	443128	45.4182	ug/L	100
14) Iodomethane	3.312	142	543624	46.9248	ug/L	97
15) t-Butyl Alcohol	3.227	59	290183	180.9592	ug/L	97
16) Methyl Acetate	3.404	43	608765	35.8933	ug/L	95
17) Acrylonitrile	3.428	53	1496621	197.4500	ug/L	99
18) Allyl chloride	3.495	76	249167	47.5511	ug/L	86
19) Methylene chloride	3.538	84	482755	44.5169	ug/L	96
20) Carbon disulfide	3.611	76	1322794	45.5808	ug/L	99
21) trans-1,2-dichloroethene	4.195	96	434517	41.6310	ug/L	89
22) MTBE	4.164	73	1602872	48.7742	ug/L	94
23) 1,1-Dichloroethane	4.590	63	1064924	46.7444	ug/L	98
24) Vinyl acetate	4.657	43	2985935	88.3094	ug/L	98
25) Propionitrile	4.766	54	1124599	399.5701	ug/L	98
26) Hexane	4.785	57	552610	50.3044	ug/L	96
27) Chloroprene	4.858	53	1033989	50.3768	ug/L	98
28) Di-isopropyl ether	4.955	45	2141477	40.2616	ug/L	96
29) 2-Butanone	5.052	43	972205	94.2023	ug/L	96
30) Methacrylonitrile	5.241	41	5125605	405.8110	ug/L	95
31) cis-1,2-Dichloroethene	5.338	96	507771	43.5579	ug/L	93
32) 2,2-Dichloropropane	5.442	77	772450	51.4577	ug/L	97
33) ETBE	5.454	59	1889810	47.2980	ug/L	96
34) Chloroform	5.600	83	972395	46.5308	ug/L	100
35) Bromochloromethane	5.630	128	265888	43.0540	ug/L	96
36) Isobutyl alcohol	5.697	42	416801	851.0355	ug/L	96
38) Tetrahydrofuran	5.819	72	72291	38.5323	ug/L	87

02/10/15

Data Path : C:\msdchem\1\DATA\020615V3\
Data File : 0206LCS1.D
Acq On : 6 Feb 2015 8:18 am
Operator :
Sample : 5B06004-BS1
Misc : 1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 06 10:57:38 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
39) tert-Amyl alcohol	5.989	59	268261	229.9812	ug/L		96
40) 1,1,1-Trichloroethane	6.190	97	850030	50.1086	ug/L		98
42) 1,2-Dichloroethane	6.415	62	932962	47.3185	ug/L		98
43) 1,1-Dichloropropene	6.421	75	700929	50.2420	ug/L		97
44) Cyclohexane	6.464	56	994358	48.2091	ug/L		97
45) Carbon tetrachloride	6.543	117	718712	54.3251	ug/L		98
46) Benzene	6.585	78	2001761	46.0560	ug/L		100
47) tert- Amyl Methyl Ether	6.786	73	1544492	51.2150	ug/L		99
48) Trichloroethene	7.388	95	493408	43.4170	ug/L		98
49) 1,2-Dichloropropane	7.443	63	608869	44.7945	ug/L		95
50) Dibromomethane	7.559	93	355713	43.6255	ug/L		99
51) Methyl methacrylate	7.595	41	745814	45.6753	ug/L		98
52) 1,4-Dioxane	7.607	88	153638	842.4234	ug/L		97
53) Bromodichloromethane	7.632	83	738621	47.2312	ug/L		100
54) tert- Amyl Ethyl Ether	7.723	59	1383123	45.4748	ug/L		99
55) Methyl cyclohexane	7.766	83	787949	51.0311	ug/L		99
56) 2-Chloroethyl vinyl ether	8.021	63	633799	85.3605	ug/L		99
57) 4-Methyl-2-pentanone	8.161	43	1630901	83.6471	ug/L		97
58) cis-1,3-Dichloropropene	8.240	75	888598	54.9020	ug/L		94
61) trans-1,3-Dichloropropene	8.739	75	807535	47.3109	ug/L		91
62) Toluene	8.721	92	1268745	43.8326	ug/L		99
63) 1,1,2-Trichloroethane	8.891	83	419805	40.5388	ug/L		99
64) Ethyl methacrylate	8.940	69	754375	47.4187	ug/L		90
65) 2-Hexanone	9.055	43	1277390	88.7375	ug/L		95
66) 1,3-Dichloropropane	9.110	76	914796	44.5727	ug/L		100
67) Dibromochloromethane	9.366	129	563742	45.9709	ug/L		100
68) Tetrachloroethene	9.469	166	528165	46.0607	ug/L		97
69) 1,2-Dibromoethane	9.585	107	530144	43.0011	ug/L		99
70) 1-Chlorohexane	10.132	91	633960	49.5348	ug/L		99
71) Chlorobenzene	10.150	112	1349454	41.9428	ug/L		94
72) 1,1,1,2-Tetrachloroethane	10.199	131	521103	46.3243	ug/L		97
73) Ethylbenzene	10.302	91	2412948	48.0749	ug/L		97
74) m,p-Xylene	10.418	91	3902907	98.2512	ug/L		95
75) Styrene	10.789	104	1530614	50.0174	ug/L		93
76) o-Xylene	10.813	91	2078747	48.6021	ug/L		97
77) Bromoform	10.893	173	425709	54.5723	ug/L		100
78) Isopropylbenzene	11.221	105	2331351	51.6939	ug/L		95
79) 1,2,3-Trichloropropane	11.288	110	225997	40.3066	ug/L		98
82) cis-1,4-Dichloro-2-butene	10.996	53	306050	60.9136	ug/L		87
83) 1,1,2,2-Tetrachloroethane	11.160	83	693759	44.4771	ug/L		98
84) trans-1,4-Dichloro-2-b...	11.318	53	282918	53.3123	ug/L	#	57
85) Bromobenzene	11.489	156	605750	46.1245	ug/L		95
86) n-Propylbenzene	11.635	91	2811444	52.4464	ug/L		95
87) 2-Chlorotoluene	11.714	91	1751612	49.3425	ug/L		95
88) 4-Chlorotoluene	11.781	91	1890615	54.6814	ug/L		93
89) 1,3,5-Trimethylbenzene	11.823	105	2232885	55.9018	ug/L		94
90) tert-Butylbenzene	12.164	119	1949103	48.6429	ug/L		94
91) 1,2,4-Trimethylbenzene	12.194	105	2242506	53.7354	ug/L		92
92) sec-Butylbenzene	12.401	105	2595373	52.9439	ug/L		99
93) 1,3-Dichlorobenzene	12.486	146	1117979	47.6297	ug/L		99
94) 1,4-Dichlorobenzene	12.578	146	1137761	47.2428	ug/L		99
95) p-Isopropyltoluene	12.541	119	2151072	51.1585	ug/L		96

Data Path : C:\msdchem\1\DATA\020615V3\
Data File : 0206LCS1.D
Acq On : 6 Feb 2015 8:18 am
Operator :
Sample : 5B06004-BS1
Misc : 1
ALS Vial : 3 Sample Multiplier: 1

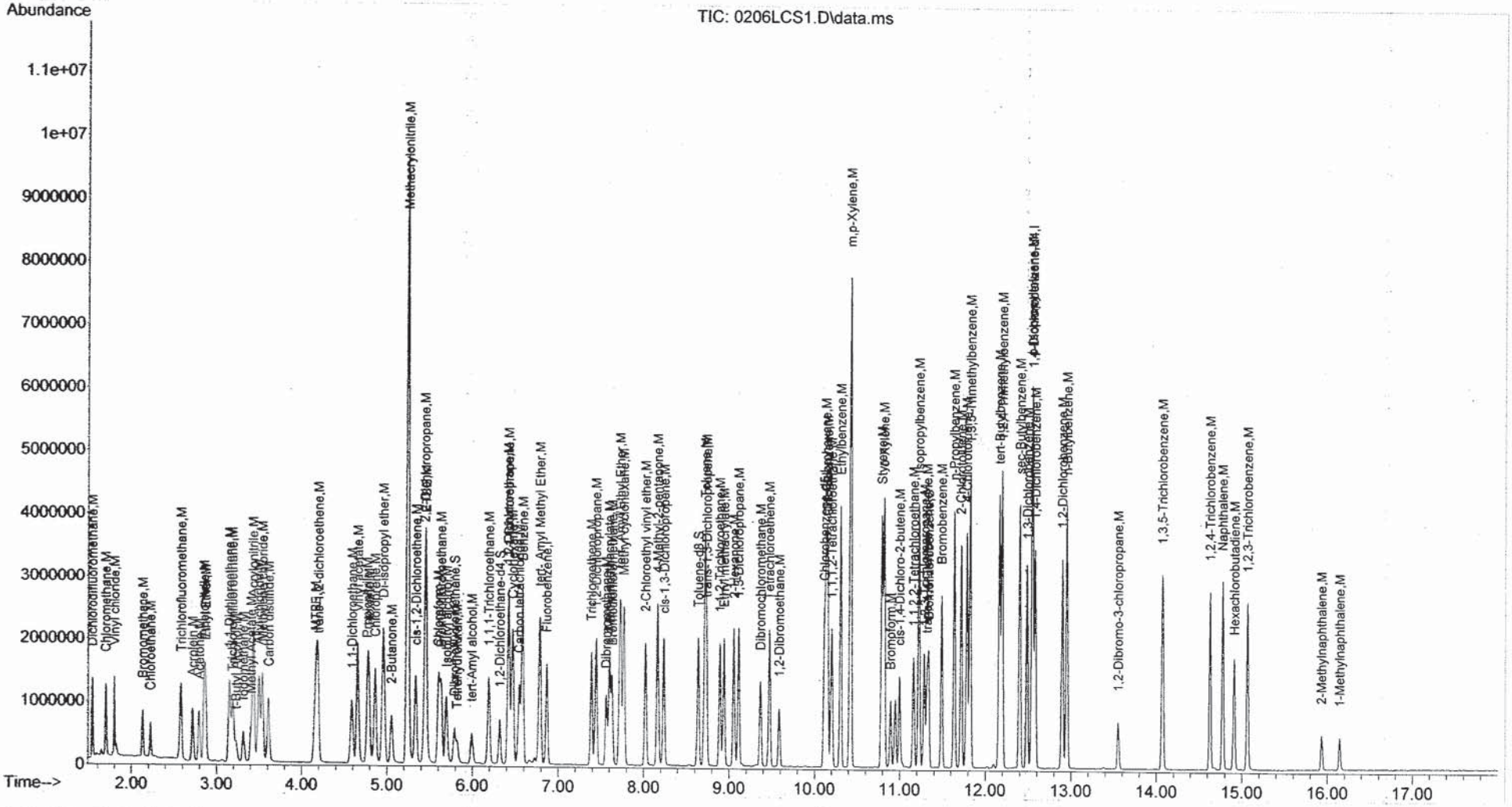
Quant Time: Feb 06 10:57:38 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
96)	1,2-Dichlorobenzene	12.894	146	1112884	45.8877	ug/L	100
97)	n-Butylbenzene	12.949	91	1975777	45.2697	ug/L	99
98)	1,2-Dibromo-3-chloropr...	13.551	157	155543	48.5406	ug/L	89
99)	1,3,5-Trichlorobenzene	14.068	180	862463	43.9670	ug/L	97
100)	1,2,4-Trichlorobenzene	14.628	180	727639	37.5235	ug/L	99
101)	Naphthalene	14.774	128	1929040	32.3579	ug/L	100
102)	Hexachlorobutadiene	14.914	225	299039	41.6777	ug/L	99
103)	1,2,3-Trichlorobenzene	15.066	180	713697	35.0467	ug/L	100
104)	2-Methylnaphthalene	15.930	142	218874	10.4479	ug/L	96
105)	1-Methylnaphthalene	16.143	142	205100	10.6613	ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\020615V3\
Data File : 0206LCS1.D
Acq On : 6 Feb 2015 8:18 am
Operator :
Sample : 5B06004-BS1
Misc : 1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 06 10:57:38 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration



101614W3.M Fri Feb 06 10:57:53 2015

Data Path : C:\msdchem\1\DATA\020615V3\
Data File : 0206BLK1.D
Acq On : 6 Feb 2015 9:58 am
Operator :
Sample : 5B06004-BLK1
Misc : 1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Feb 06 11:03:40 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

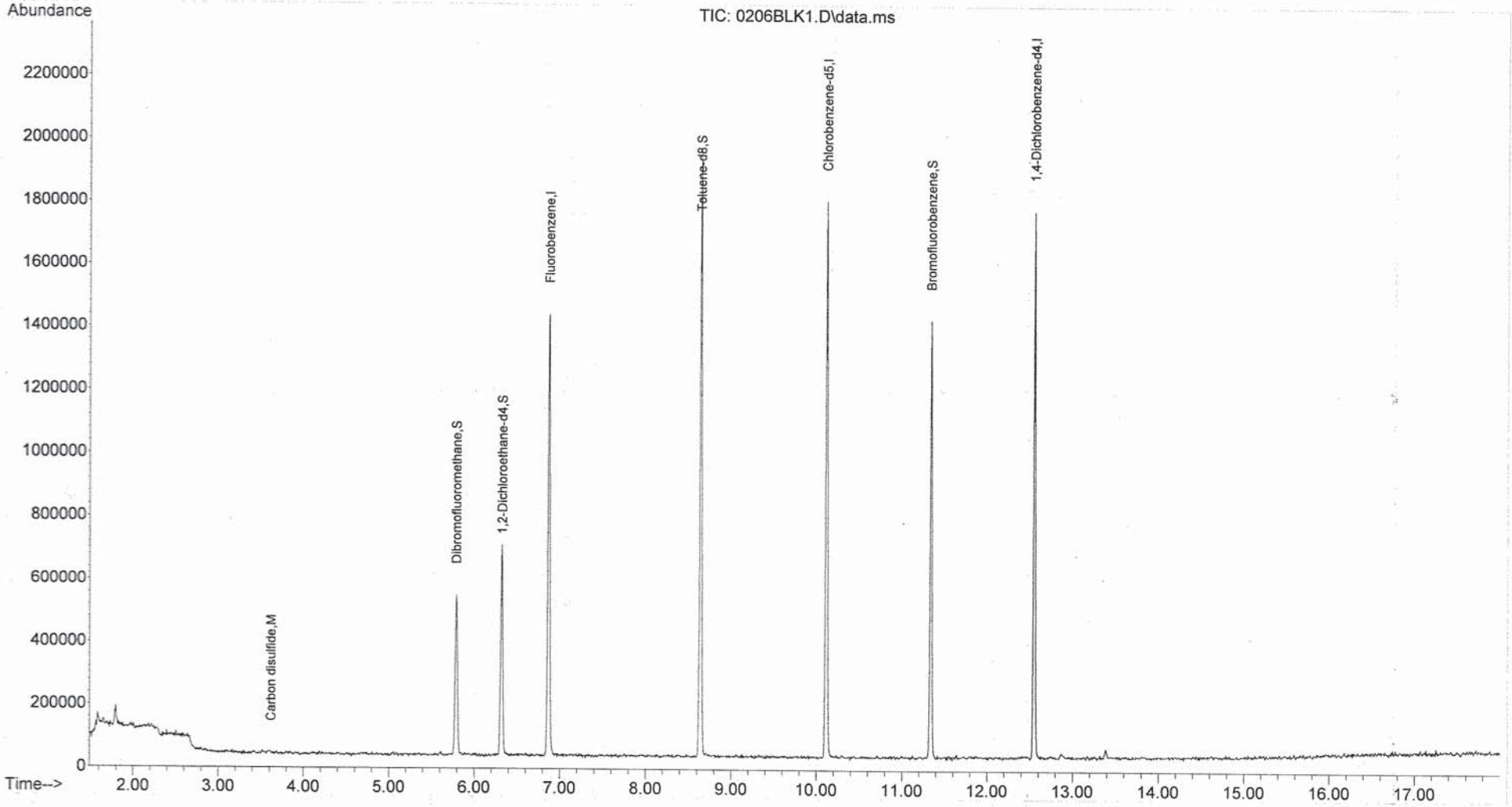
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	6.871	96	1033721	30.00	ug/L		0.00
59) Chlorobenzene-d5	10.114	82	449299	30.00	ug/L		0.00
81) 1,4-Dichlorobenzene-d4	12.547	152	379172	30.00	ug/L	#	0.00
System Monitoring Compounds							
37) Dibromofluoromethane	5.789	111	283095	29.82	ug/L		0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 99.40%				
41) 1,2-Dichloroethane-d4	6.324	102	67119	29.18	ug/L		0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 97.27%				
60) Toluene-d8	8.642	98	1017970	28.39	ug/L		0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 94.63%				
80) Bromofluorobenzene	11.337	95	388329	28.93	ug/L		0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 96.43%				
Target Compounds							Qvalue
20) Carbon disulfide	3.617	76	5641	0.2168	ug/L	#	91

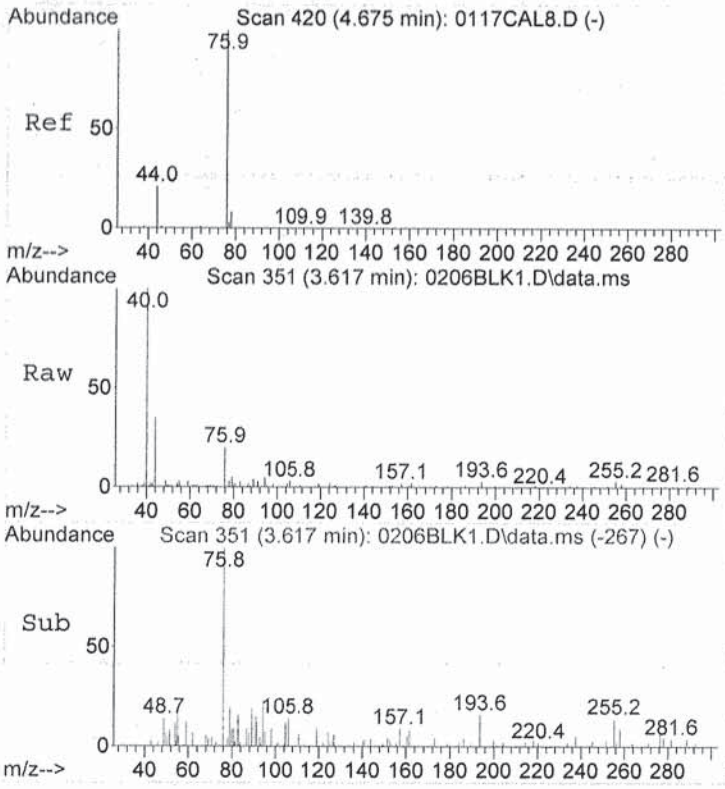
(#) = qualifier out of range (m) = manual integration (+) = signals summed

02/10/15

Data Path : C:\msdchem\1\DATA\020615V3\
Data File : 0206BLK1.D
Acq On : 6 Feb 2015 9:58 am
Operator :
Sample : 5B06004-BLK1
Misc : 1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Feb 06 11:03:40 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

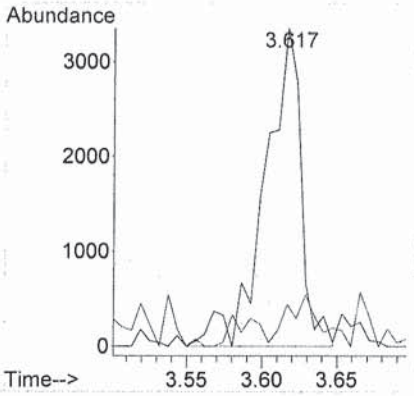




#20
Carbon disulfide
Concen: 0.2168 ug/L
RT: 3.617 min Scan# 351
Delta R.T. 0.013 min
Lab File: 0206BLK1.D
Acq: 6 Feb 2015 9:58 am

Tgt Ion: 76 Resp: 5641

Ion	Ratio	Lower	Upper
76	100		
78	12.6	7.4	11.0#



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\020615V3\
Data File : 0112402A.D
Acq On : 6 Feb 2015 10:48 am
Operator :
Sample : 1501124-02
Misc : 1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 09 08:42:23 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

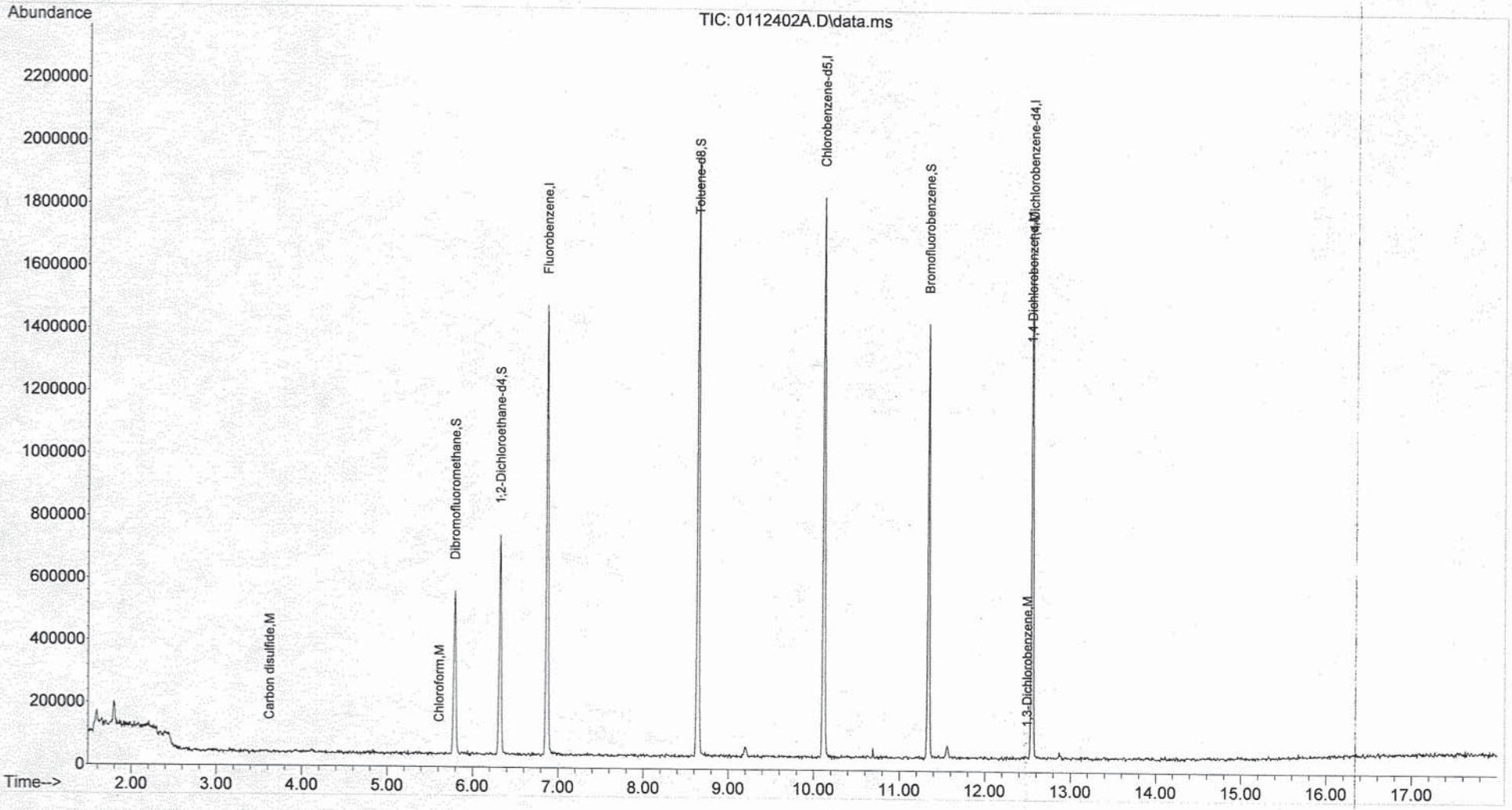
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	6.865	96	1059304	30.00	ug/L	0.00
59) Chlorobenzene-d5	10.114	82	465947	30.00	ug/L	0.00
81) 1,4-Dichlorobenzene-d4	12.554	152	375959	30.00	ug/L	# 0.00
System Monitoring Compounds						
37) Dibromofluoromethane	5.789	111	293206	30.14	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 100.47%			
41) 1,2-Dichloroethane-d4	6.318	102	71223	30.21	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 100.70%			
60) Toluene-d8	8.642	98	1034043	27.81	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 92.70%			
80) Bromofluorobenzene	11.337	95	393738	28.29	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 94.30%			
Target Compounds						Qvalue
20) Carbon disulfide	3.617	76	3431	0.1287	ug/L #	86
34) Chloroform	5.606	83	2213	0.1152	ug/L #	38
93) 1,3-Dichlorobenzene	12.493	146	1262	0.0640	ug/L	97
94) 1,4-Dichlorobenzene	12.541	146	1840m	0.0909	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

02/10/15

Data Path : C:\msdchem\1\DATA\020615V3\
Data File : 0112402A.D
Acq On : 6 Feb 2015 10:48 am
Operator :
Sample : 1501124-02
Misc : 1
ALS Vial : 9 Sample Multiplier: 1

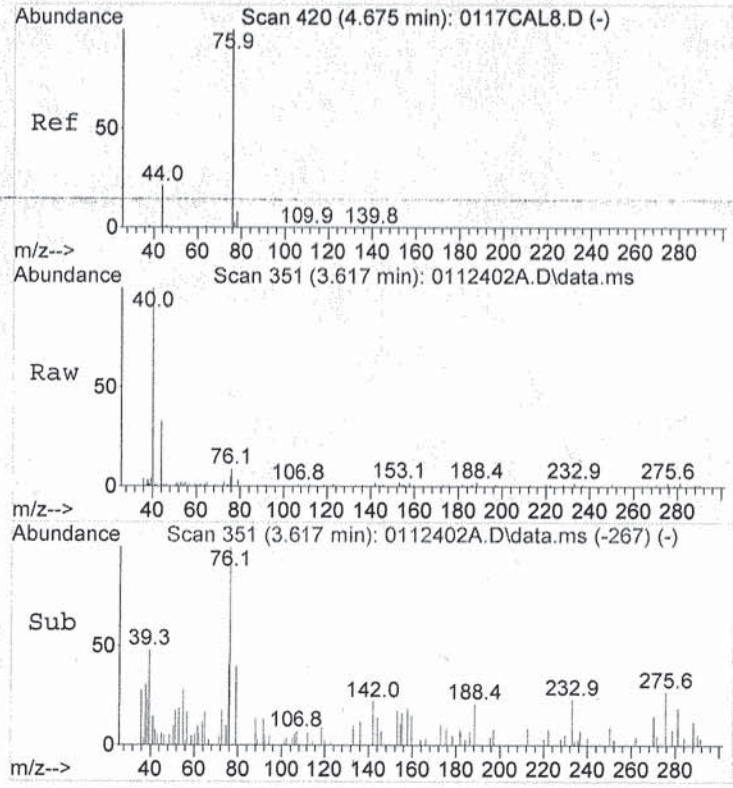
Quant Time: Feb 09 08:42:23 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration



101614W3.M Mon Feb 09 08:42:31 2015

160

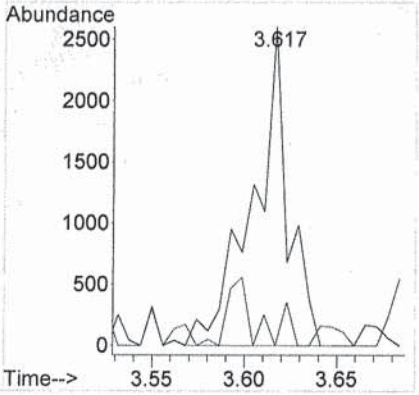
1501124

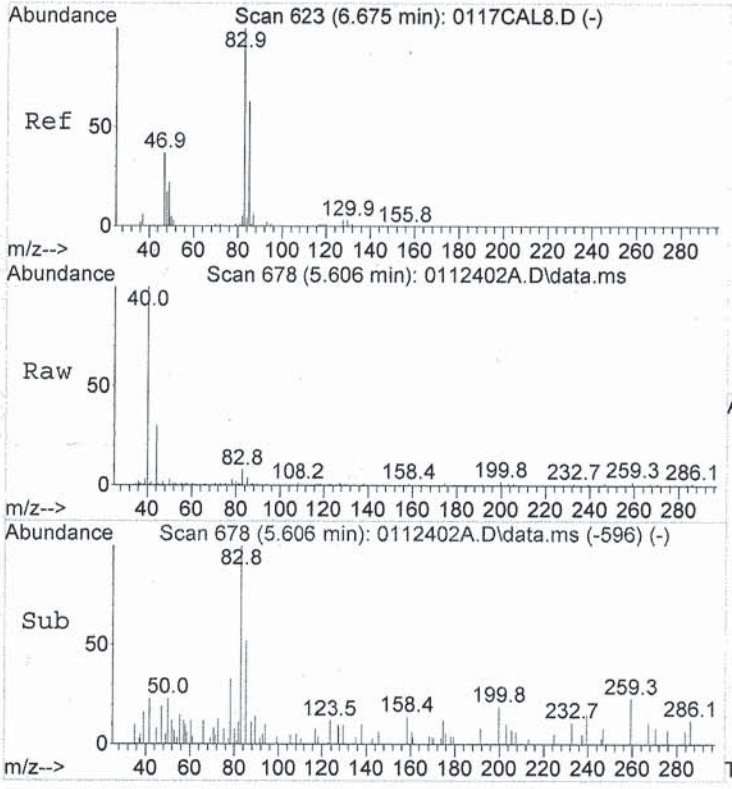


#20
Carbon disulfide
Concen: 0.1287 ug/L
RT: 3.617 min Scan# 351
Delta R.T. 0.013 min
Lab File: 0112402A.D
Acq: 6 Feb 2015 10:48 am

Tgt Ion: 76 Resp: 3431

Ion	Ratio	Lower	Upper
76	100		
78	14.1	7.4	11.0#

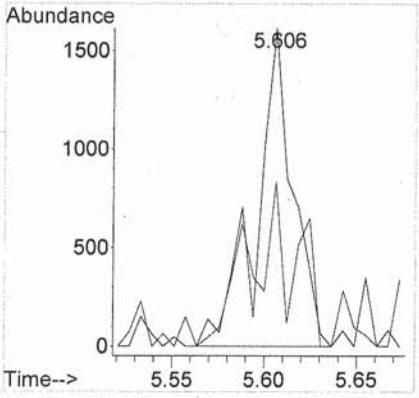




#34
Chloroform
Concen: 0.1152 ug/L
RT: 5.606 min Scan# 678
Delta R.T. 0.000 min
Lab File: 0112402A.D
Acq: 6 Feb 2015 10:48 am

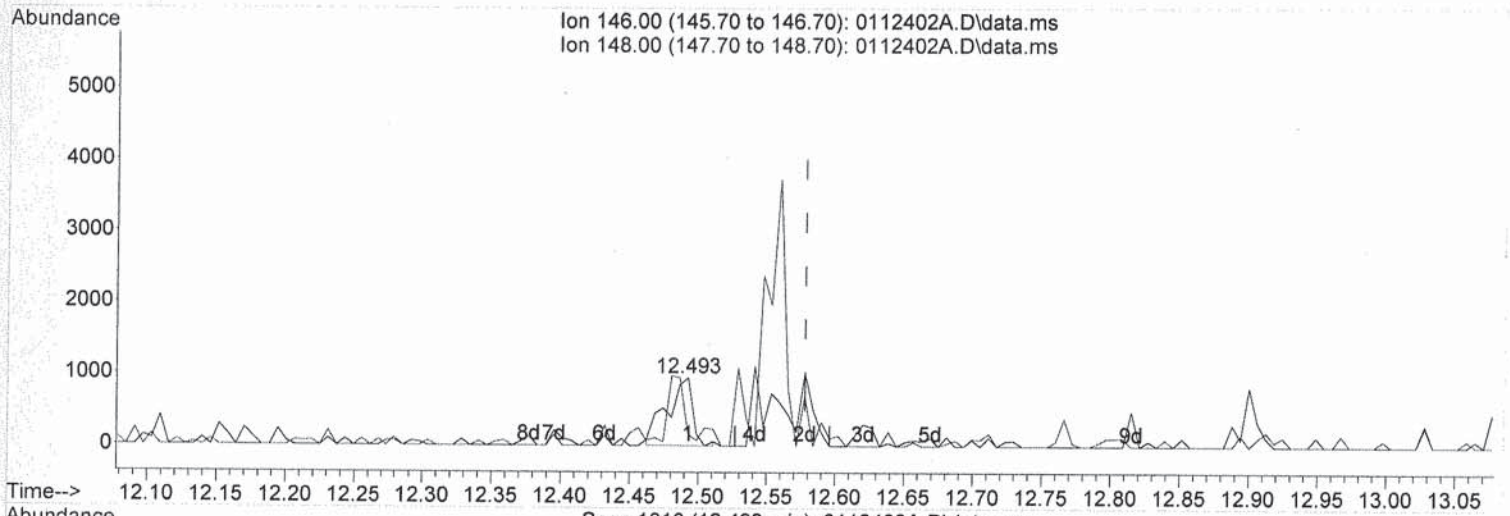
Tgt Ion: 83 Resp: 2213

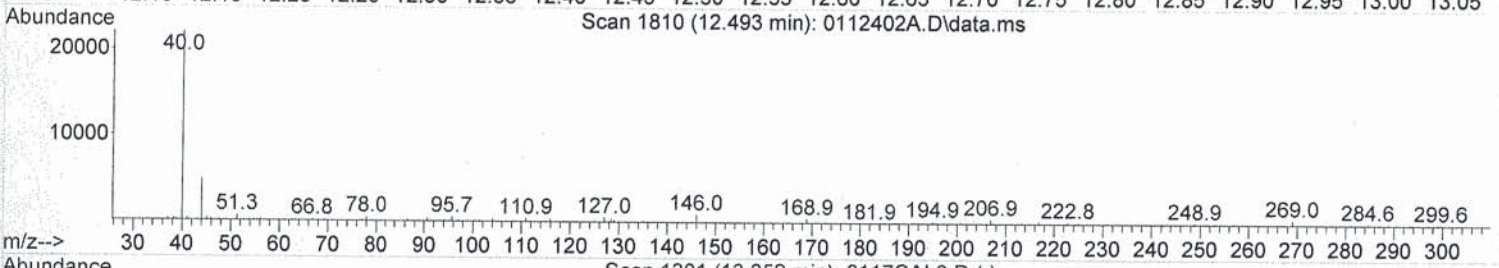
Ion	Ratio	Lower	Upper
83	100		
85	15.7	51.4	77.2#

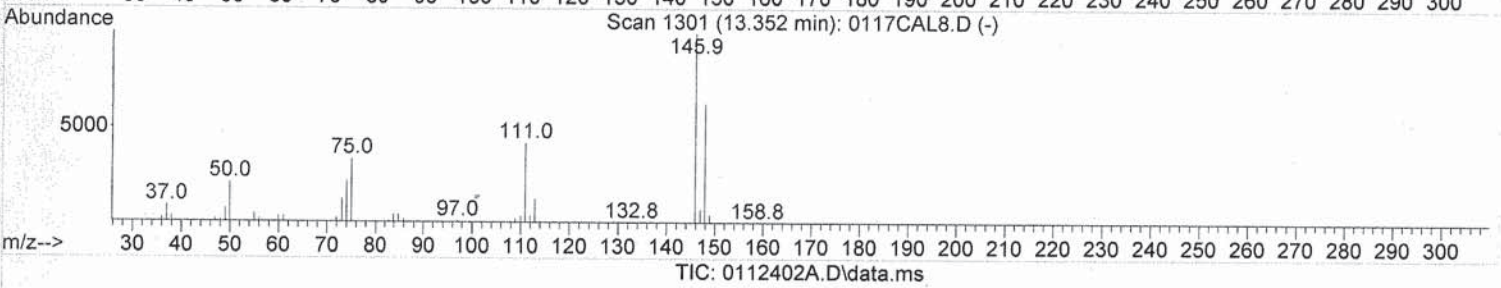


Data Path : C:\msdchem\1\DATA\020615V3\
Data File : 0112402A.D
Acq On : 6 Feb 2015 10:48 am
Operator :
Sample : 1501124-02
Misc : 1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 09 08:42:23 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration







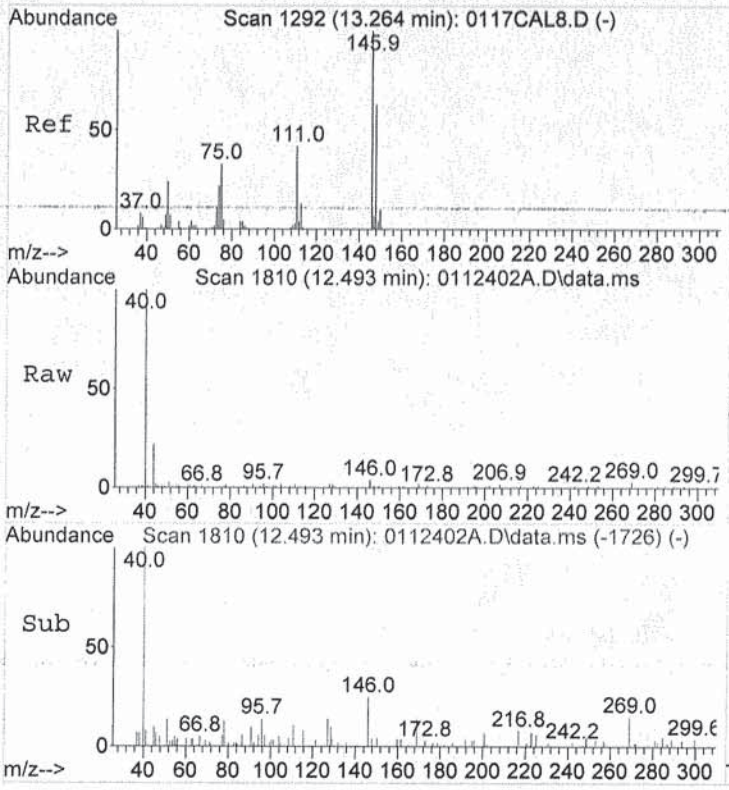
TIC: 0112402A.D\data.ms

(94) 1,4-Dichlorobenzene (M)

12.493min (-0.085) 0.06 ug/L m

response 1230

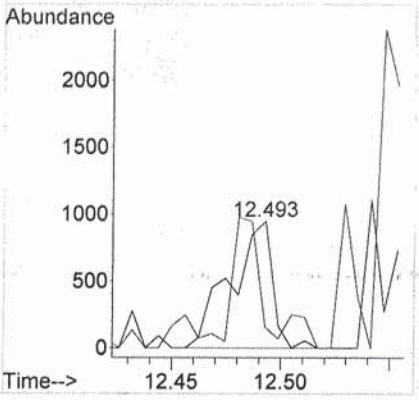
Ion	Exp%	Act%
146.00	100	100
148.00	64.10	68.37
0.00	0.00	0.00
0.00	0.00	0.00

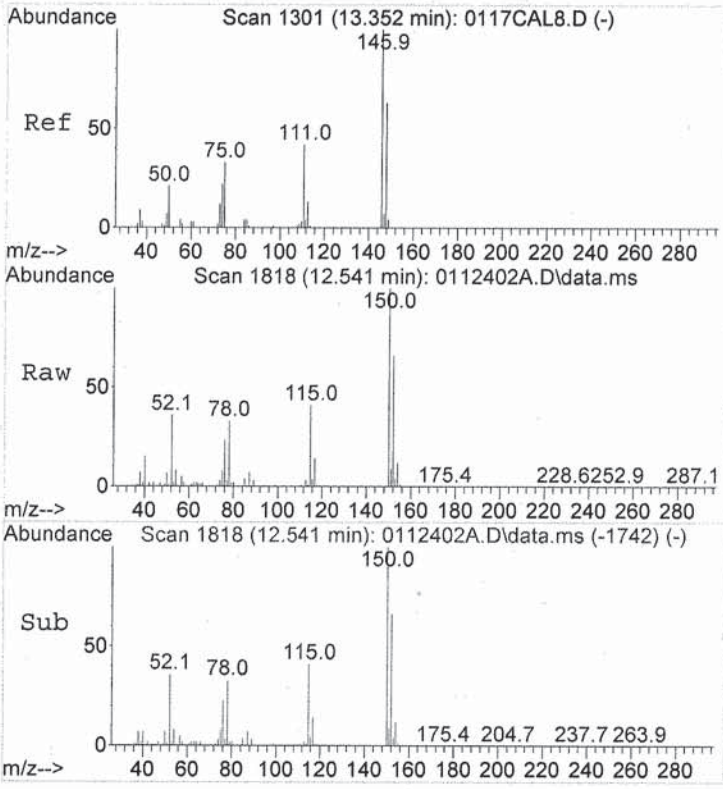


#93
1,3-Dichlorobenzene
Concen: 0.0640 ug/L
RT: 12.493 min Scan# 1810
Delta R.T. 0.013 min
Lab File: 0112402A.D
Acq: 6 Feb 2015 10:48 am

Tgt Ion:146 Resp: 1262

Ion	Ratio	Lower	Upper
146	100		
148	66.6	51.2	76.8

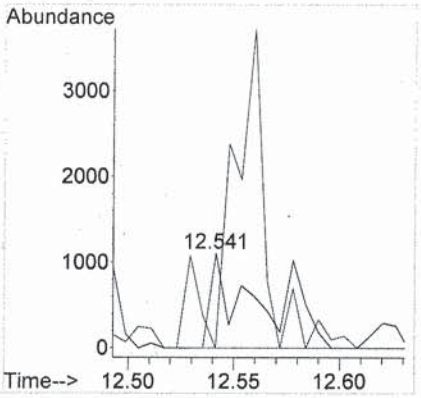




#94
1,4-Dichlorobenzene
Concen: 0.0909 ug/L m
RT: 12.541 min Scan# 1818
Delta R.T. -0.037 min
Lab File: 0112402A.D
Acq: 6 Feb 2015 10:48 am

Tgt Ion:146 Resp: 1840

Ion	Ratio	Lower	Upper
146	100		
148	45.7	51.3	76.9#



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\020615V3\
Data File : 0112401B.D
Acq On : 6 Feb 2015 2:09 pm
Operator :
Sample : 1501124-01
Misc : 1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Feb 09 09:03:38 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

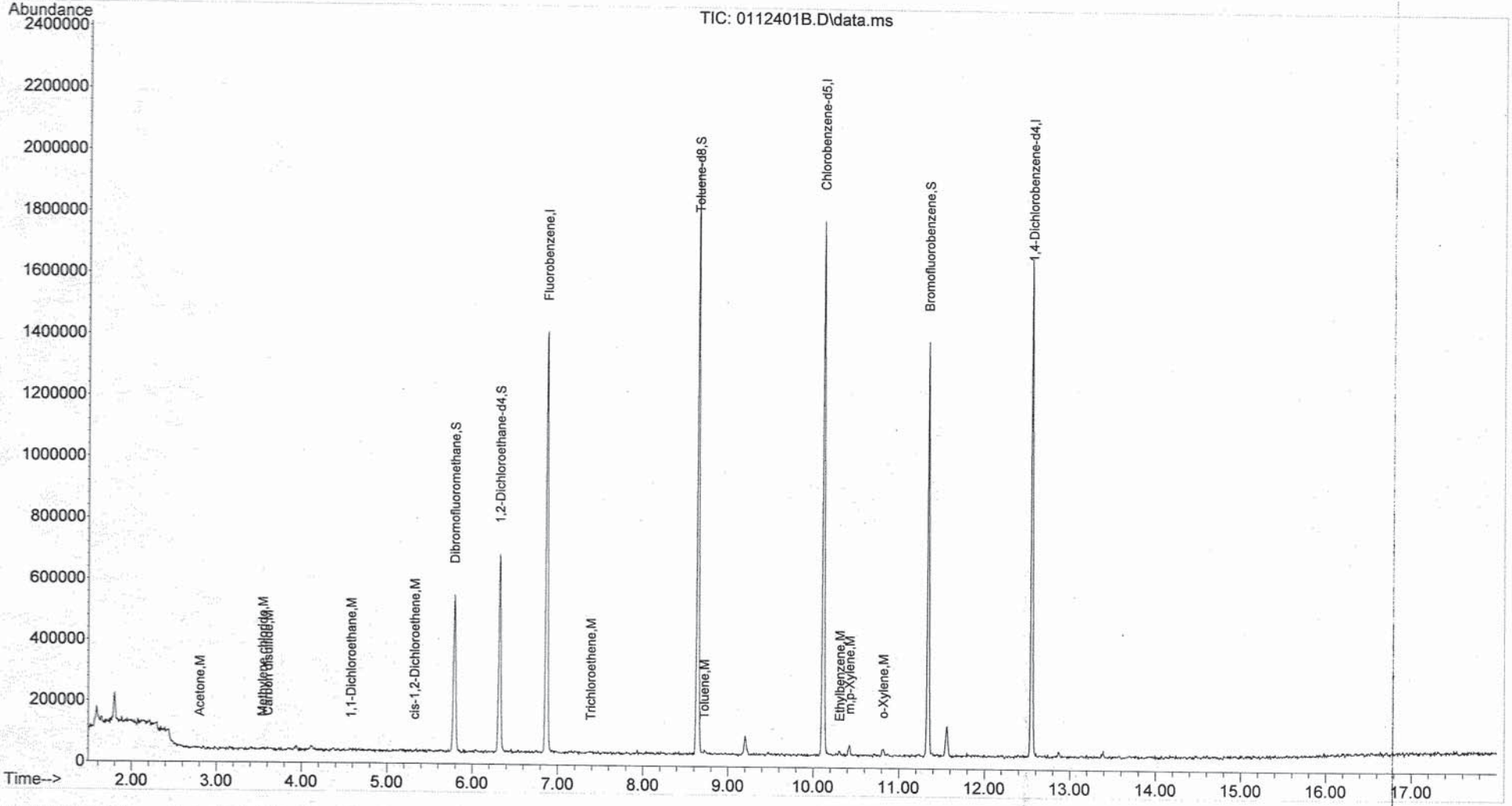
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	6.871	96	1007307	30.00	ug/L		0.00
59) Chlorobenzene-d5	10.114	82	439013	30.00	ug/L		0.00
81) 1,4-Dichlorobenzene-d4	12.553	152	362814	30.00	ug/L	#	0.00
System Monitoring Compounds							
37) Dibromofluoromethane	5.788	111	287678	31.10	ug/L		0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 103.67%				
41) 1,2-Dichloroethane-d4	6.318	102	66616	29.72	ug/L		0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 99.07%				
60) Toluene-d8	8.642	98	1013241	28.93	ug/L		0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 96.43%				
80) Bromofluorobenzene	11.337	95	381172	29.06	ug/L		0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 96.87%				
Target Compounds							Qvalue
9) Acetone	2.801	43	3198	0.5411	ug/L		96
19) Methylene chloride	3.543	84	2009	0.2120	ug/L	#	67
20) Carbon disulfide	3.604	76	1621	0.0639	ug/L	#	33
23) 1,1-Dichloroethane	4.578	63	1691	0.0849	ug/L	#	55
31) cis-1,2-Dichloroethene	5.320	96	1268	0.1245	ug/L	#	74
48) Trichloroethene	7.388	95	1082	0.1090	ug/L		95
62) Toluene	8.721	92	1686	0.0662	ug/L	#	77
73) Ethylbenzene	10.308	91	8678	0.1965	ug/L		90
74) m,p-Xylene	10.424	91	16924	0.4843	ug/L		94
76) o-Xylene	10.819	91	11137	0.2960	ug/L		90

(#) = qualifier out of range (m) = manual integration (+) = signals summed

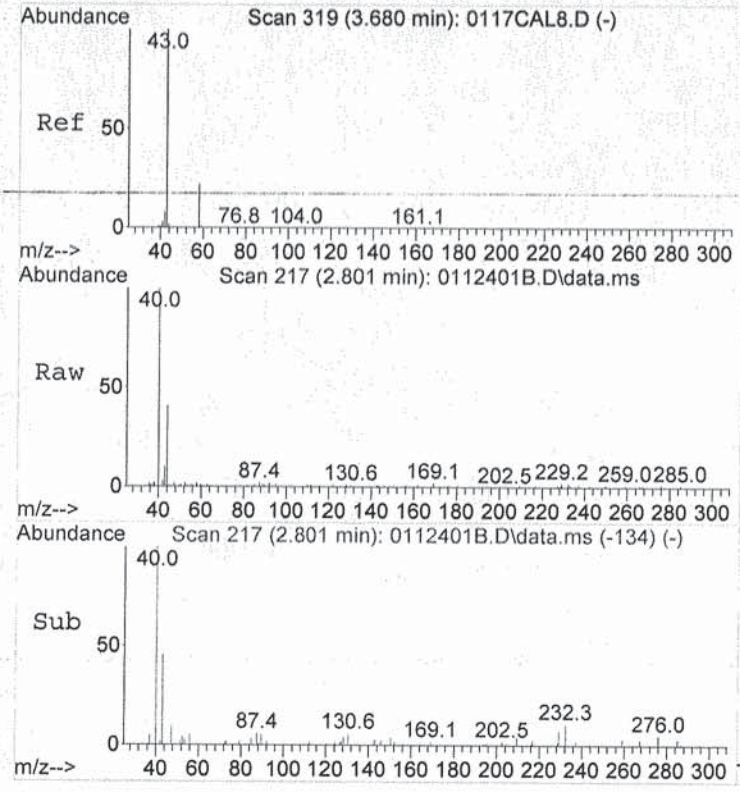
02/10/15

Data Path : C:\msdchem\1\DATA\020615V3\
Data File : 0112401B.D
Acq On : 6 Feb 2015 2:09 pm
Operator :
Sample : 1501124-01
Misc : 1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Feb 09 09:03:38 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration



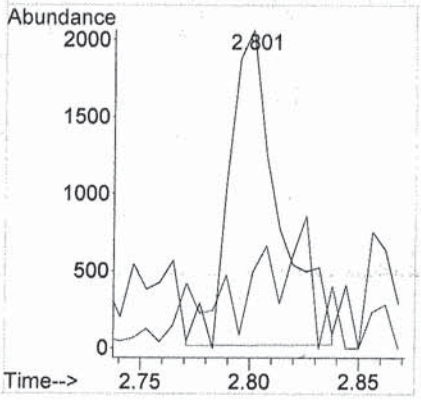
101614W3.M Mon Feb 09 09:03:45 2015

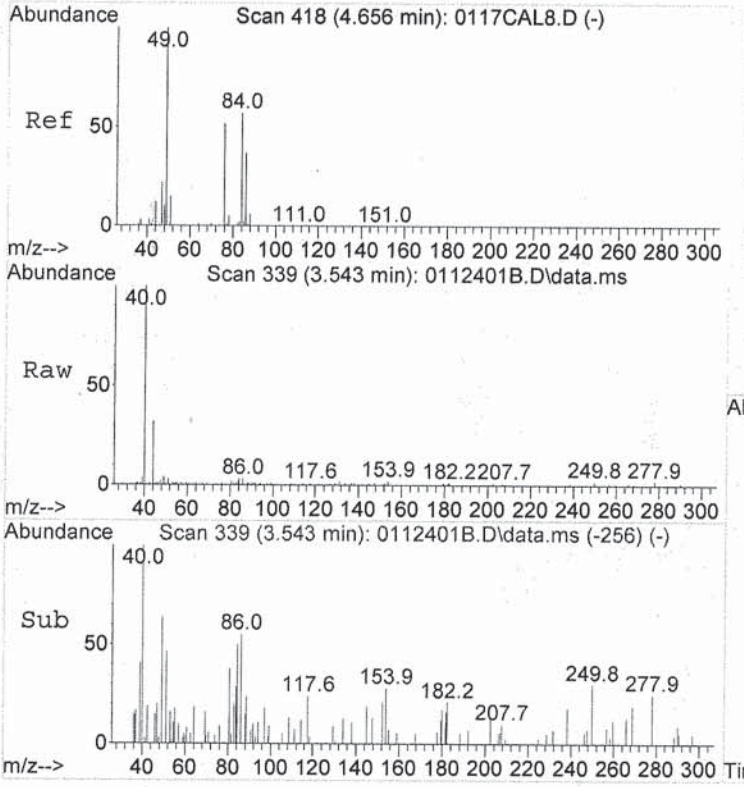


#9
Acetone
Concen: 0.5411 ug/L
RT: 2.801 min Scan# 217
Delta R.T. 0.006 min
Lab File: 0112401B.D
Acq: 6 Feb 2015 2:09 pm

Tgt Ion: 43 Resp: 3198

Ion	Ratio	Lower	Upper
43	100		
58	23.0	19.9	29.9

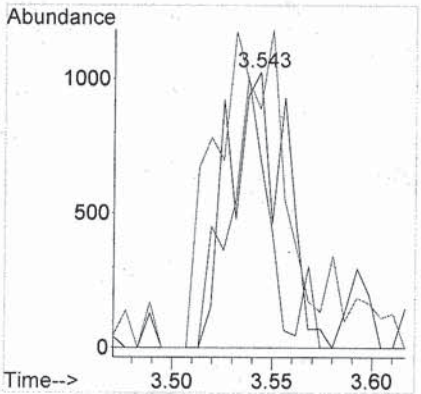


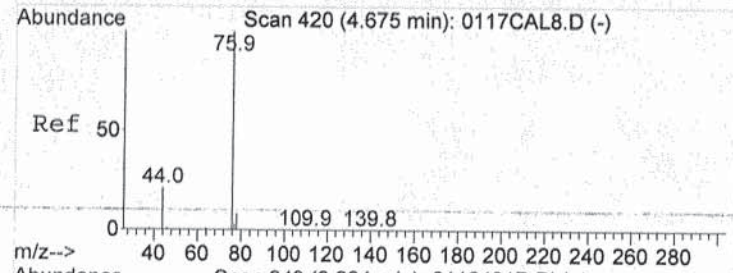


#19
Methylene chloride
Concen: 0.2120 ug/L
RT: 3.543 min Scan# 339
Delta R.T. 0.006 min
Lab File: 0112401B.D
Acq: 6 Feb 2015 2:09 pm

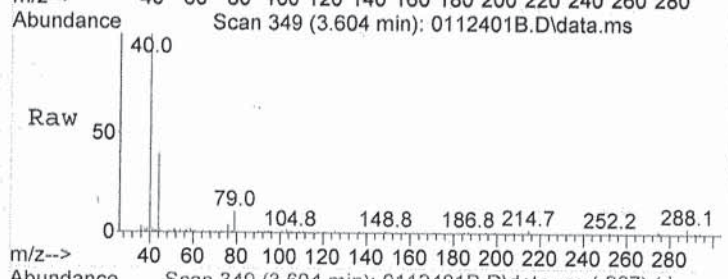
Tgt Ion: 84 Resp: 2009

Ion	Ratio	Lower	Upper
84	100		
86	65.8	51.5	77.3
49	138.6	162.6	244.0#



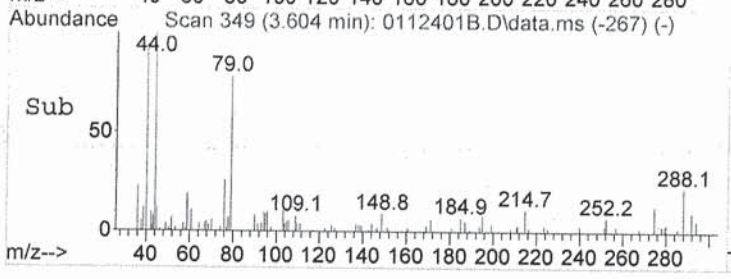


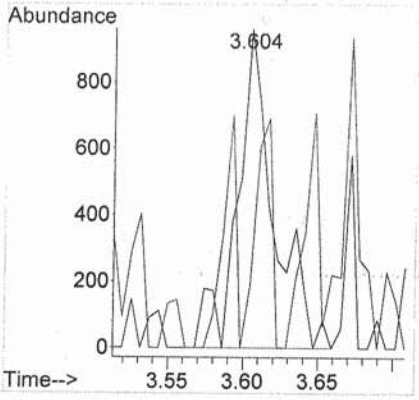
#20
Carbon disulfide
Concen: 0.0639 ug/L
RT: 3.604 min Scan# 349
Delta R.T. 0.000 min
Lab File: 0112401B.D
Acq: 6 Feb 2015 2:09 pm

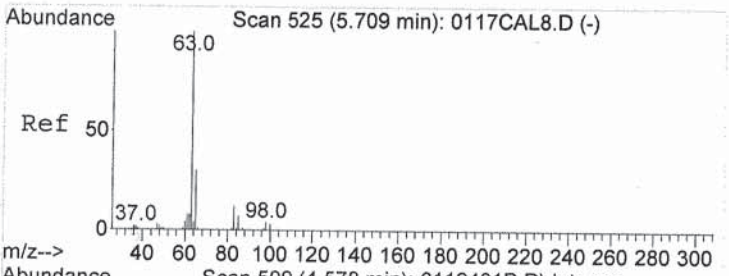


Tgt Ion: 76 Resp: 1621

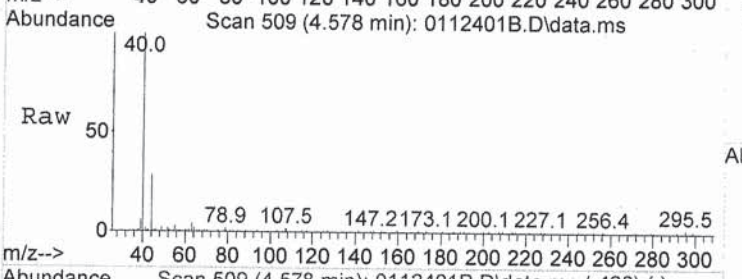
Ion	Ratio	Lower	Upper
76	100		
78	33.4	7.4	11.0#





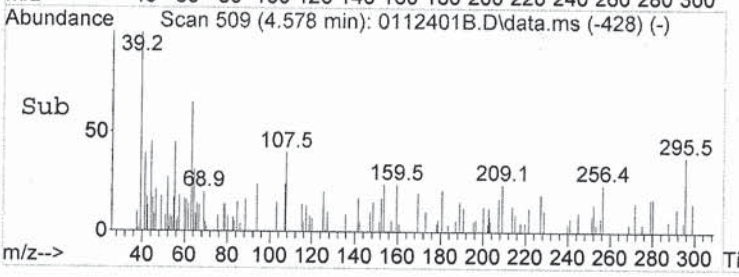


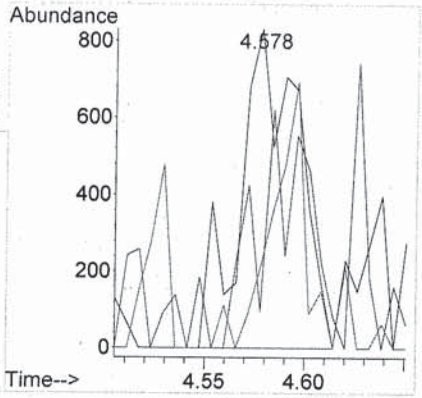
#23
1,1-Dichloroethane
Concen: 0.0849 ug/L
RT: 4.578 min Scan# 509
Delta R.T. -0.006 min
Lab File: 0112401B.D
Acq: 6 Feb 2015 2:09 pm

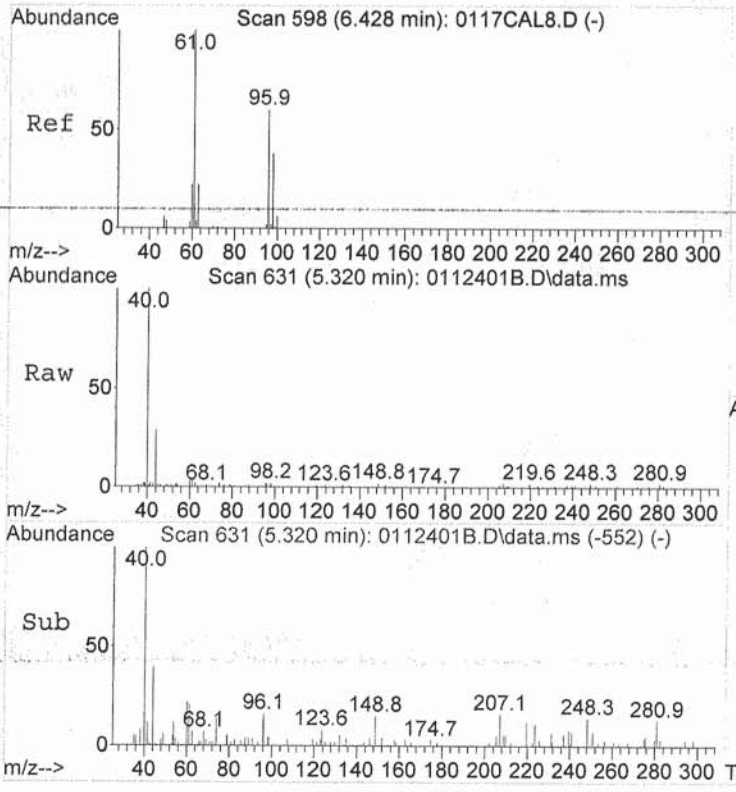


Tgt Ion: 63 Resp: 1691

Ion	Ratio	Lower	Upper
63	100		
65	47.1	25.3	37.9#
83	47.1	9.7	14.5#



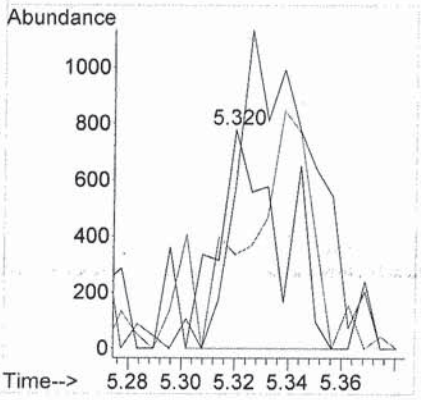


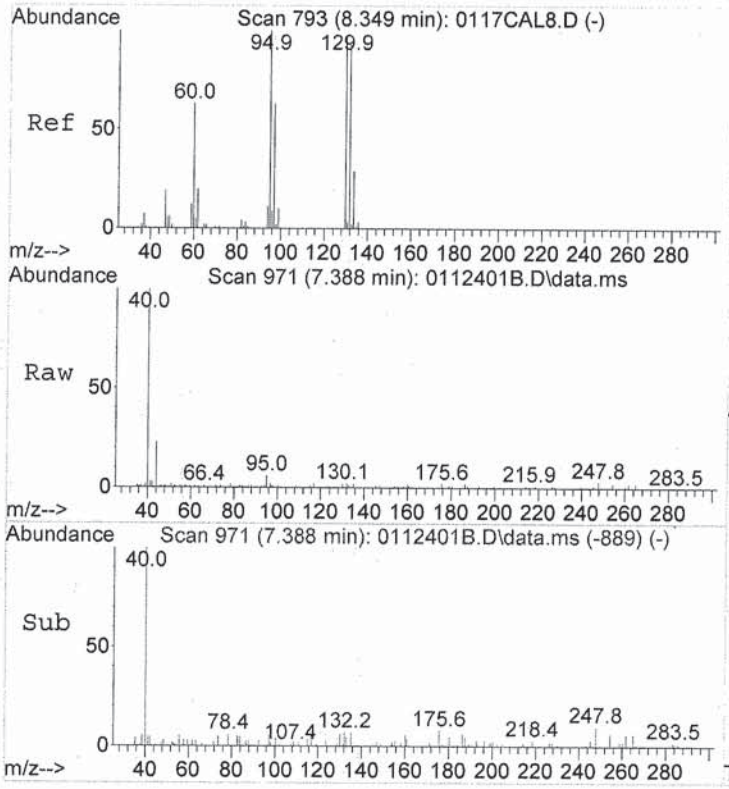


#31
cis-1,2-Dichloroethene
Concen: 0.1245 ug/L
RT: 5.320 min Scan# 631
Delta R.T. -0.018 min
Lab File: 0112401B.D
Acq: 6 Feb 2015 2:09 pm

Tgt Ion: 96 Resp: 1268

Ion	Ratio	Lower	Upper
96	100		
61	173.3	124.4	186.6
98	108.3	52.2	78.2#

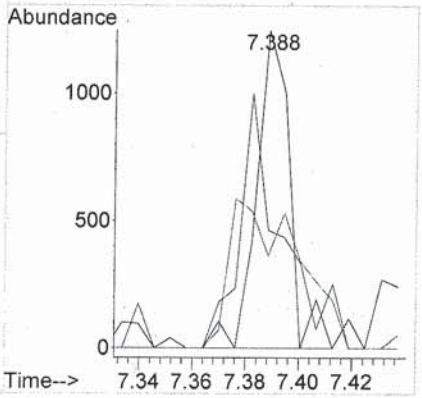


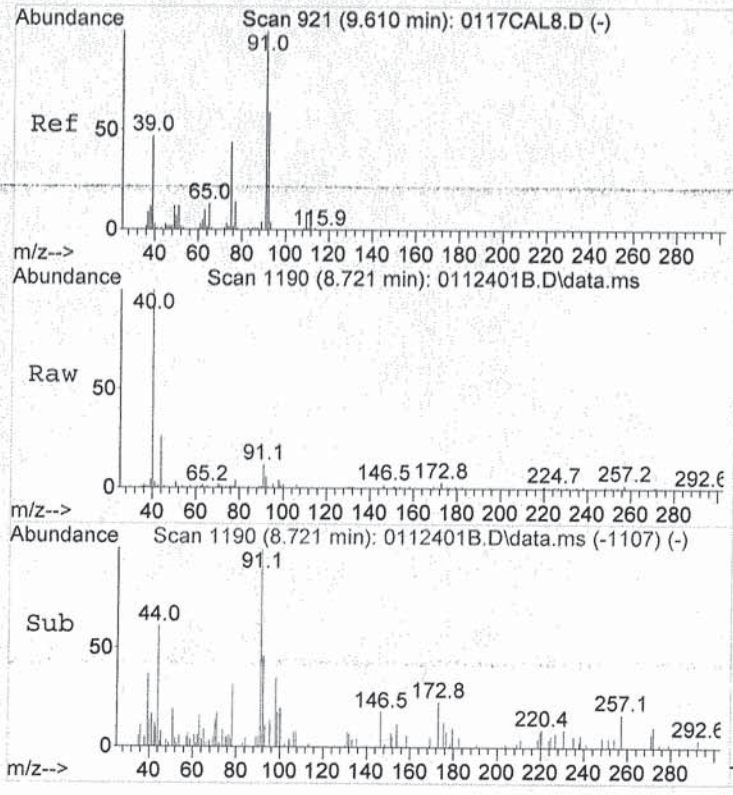


#48
Trichloroethene
Concen: 0.1090 ug/L
RT: 7.388 min Scan# 971
Delta R.T. 0.000 min
Lab File: 0112401B.D
Acq: 6 Feb 2015 2:09 pm

Tgt Ion: 95 Resp: 1082

Ion	Ratio	Lower	Upper
95	100		
132	100.4	76.6	114.8
130	97.1	82.5	123.7

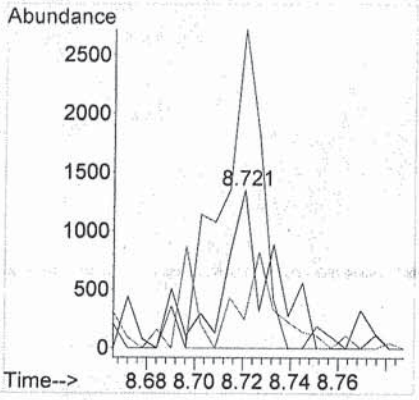


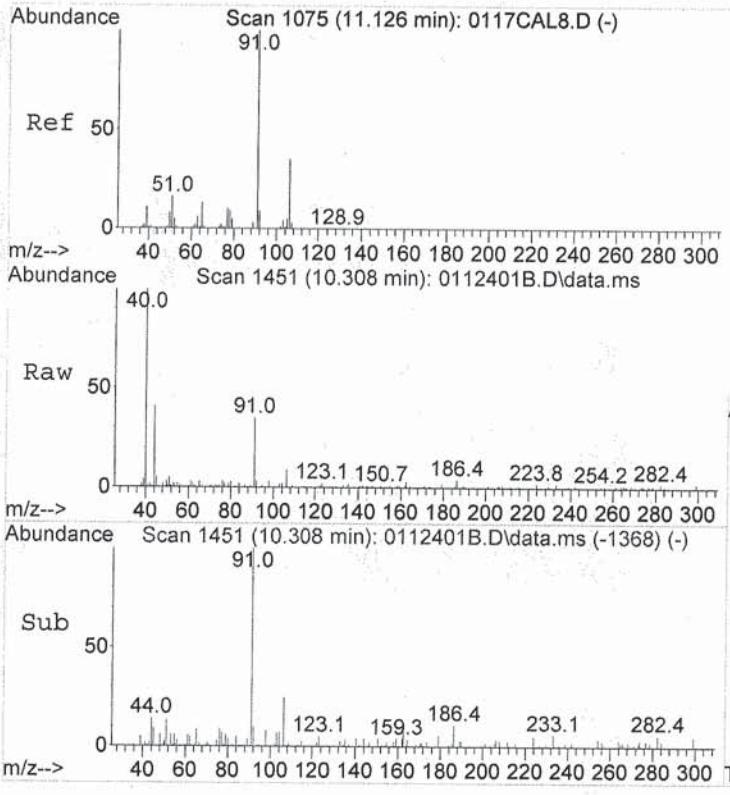


#62
Toluene
Concen: 0.0662 ug/L
RT: 8.721 min Scan# 1190
Delta R.T. 0.006 min
Lab File: 0112401B.D
Acq: 6 Feb 2015 2:09 pm

Tgt Ion: 92 Resp: 1686

Ion	Ratio	Lower	Upper
92	100		
91	192.1	134.1	201.1
65	52.2	17.0	25.4#

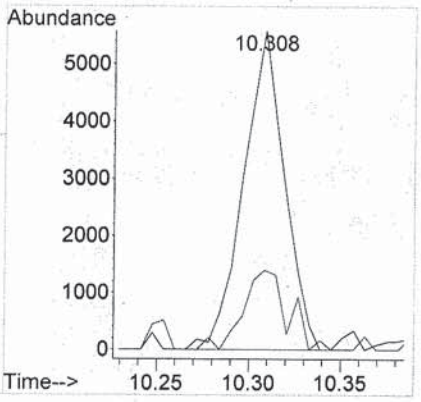


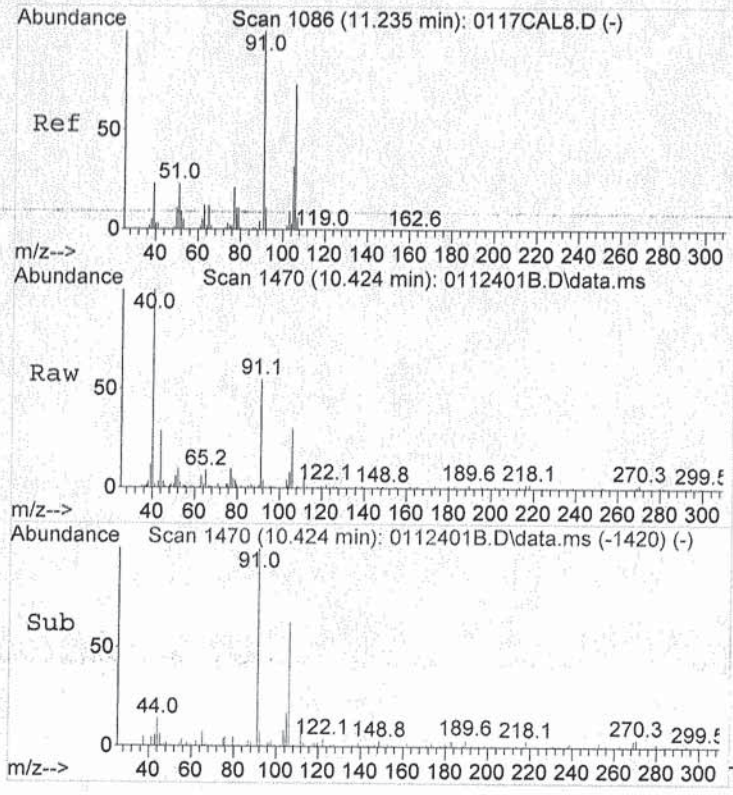


#73
Ethylbenzene
Concen: 0.1965 ug/L
RT: 10.308 min Scan# 1451
Delta R.T. 0.006 min
Lab File: 0112401B.D
Acq: 6 Feb 2015 2:09 pm

Tgt Ion: 91 Resp: 8678

Ion	Ratio	Lower	Upper
91	100		
106	27.1	26.2	39.4

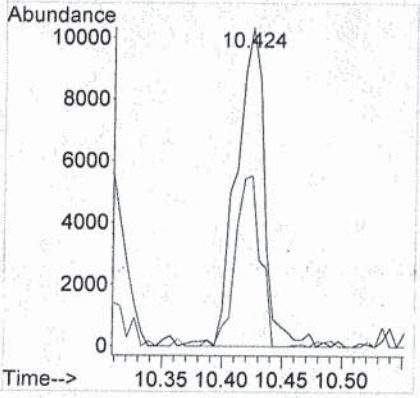


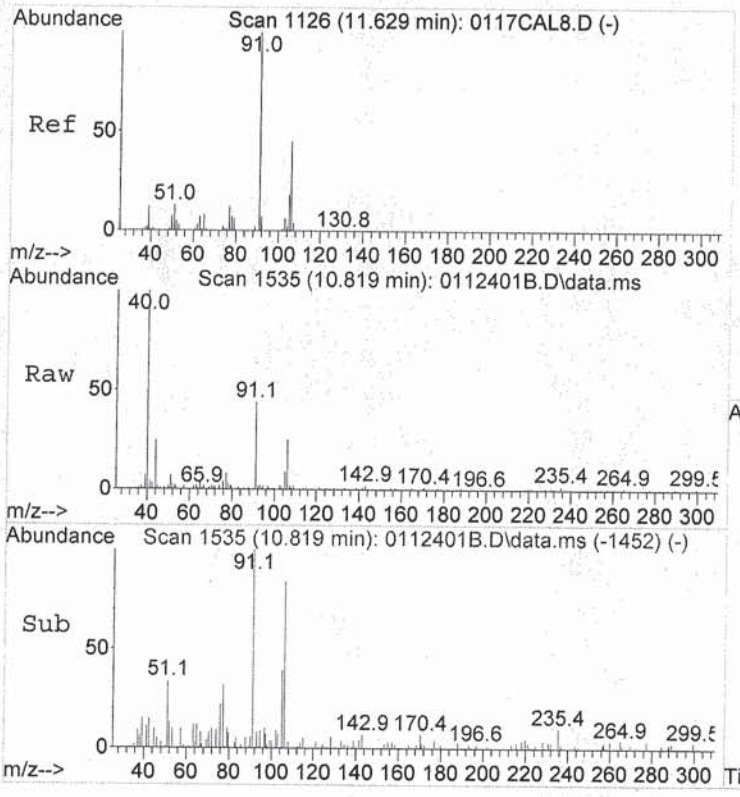


#74
m,p-Xylene
Concen: 0.4843 ug/L
RT: 10.424 min Scan# 1470
Delta R.T. 0.006 min
Lab File: 0112401B.D
Acq: 6 Feb 2015 2:09 pm

Tgt Ion: 91 Resp: 16924

Ion	Ratio	Lower	Upper
91	100		
106	47.4	41.2	61.8

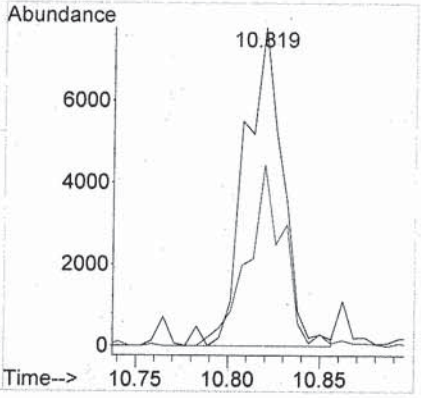




#76
o-Xylene
Concen: 0.2960 ug/L
RT: 10.819 min Scan# 1535
Delta R.T. 0.006 min
Lab File: 0112401B.D
Acq: 6 Feb 2015 2:09 pm

Tgt Ion: 91 Resp: 11137

Ion	Ratio	Lower	Upper
91	100		
106	55.2	38.5	57.7



Data Path : C:\msdchem\1\DATA\020615V3\
Data File : 0112403B.D
Acq On : 6 Feb 2015 2:34 pm
Operator :
Sample : 1501124-03
Misc : 1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Feb 09 09:05:38 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

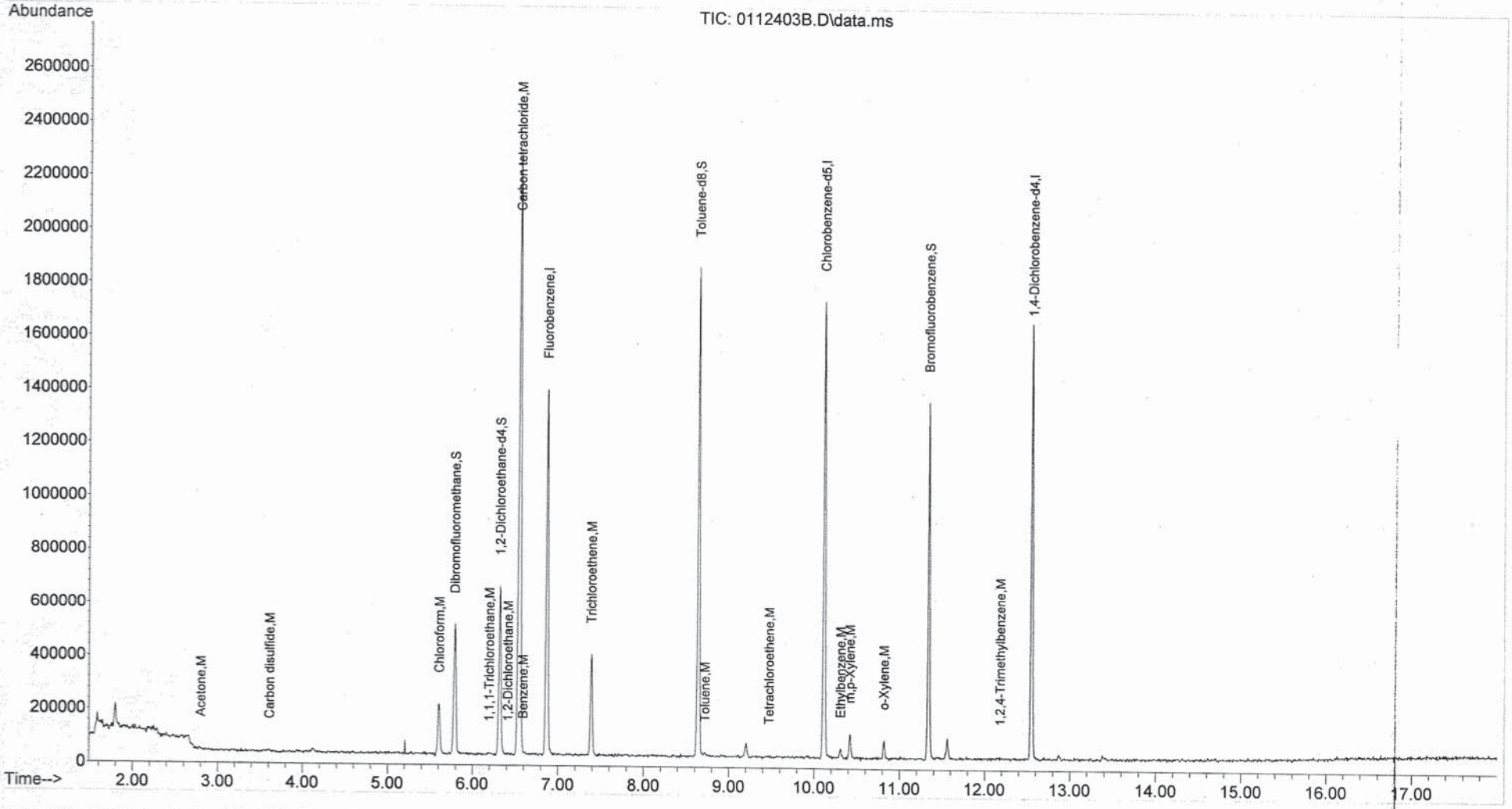
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	6.871	96	997636	30.00	ug/L		0.00
59) Chlorobenzene-d5	10.114	82	425255	30.00	ug/L		0.00
81) 1,4-Dichlorobenzene-d4	12.553	152	359740	30.00	ug/L	#	0.00
System Monitoring Compounds							
37) Dibromofluoromethane	5.788	111	281702	30.75	ug/L		0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 102.50%				
41) 1,2-Dichloroethane-d4	6.318	102	67640	30.47	ug/L		0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 101.57%				
60) Toluene-d8	8.642	98	984333	29.01	ug/L		0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 96.70%				
80) Bromofluorobenzene	11.337	95	376656	29.65	ug/L		0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 98.83%				
Target Compounds							Qvalue
9) Acetone	2.801	43	4898m	0.8368	ug/L		
20) Carbon disulfide	3.611	76	2862	0.1140	ug/L	#	1
34) Chloroform	5.606	83	134831	7.4551	ug/L		100
40) 1,1,1-Trichloroethane	6.196	97	3331	0.2269	ug/L	#	49
42) 1,2-Dichloroethane	6.415	62	3422	0.2005	ug/L	#	78
45) Carbon tetrachloride	6.549	117	1349817	117.8931	ug/L		99
46) Benzene	6.591	78	2305	0.0613	ug/L	#	52
48) Trichloroethene	7.388	95	103545	10.5281	ug/L		95
62) Toluene	8.721	92	3632	0.1473	ug/L	#	73
68) Tetrachloroethene	9.475	166	1310	0.1341	ug/L	#	64
73) Ethylbenzene	10.309	91	20044	0.4687	ug/L		96
74) m,p-Xylene	10.418	91	44695	1.3204	ug/L		89
76) o-Xylene	10.820	91	33507	0.9194	ug/L		96
91) 1,2,4-Trimethylbenzene	12.182	105	1761	0.0525	ug/L		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

02/10/15

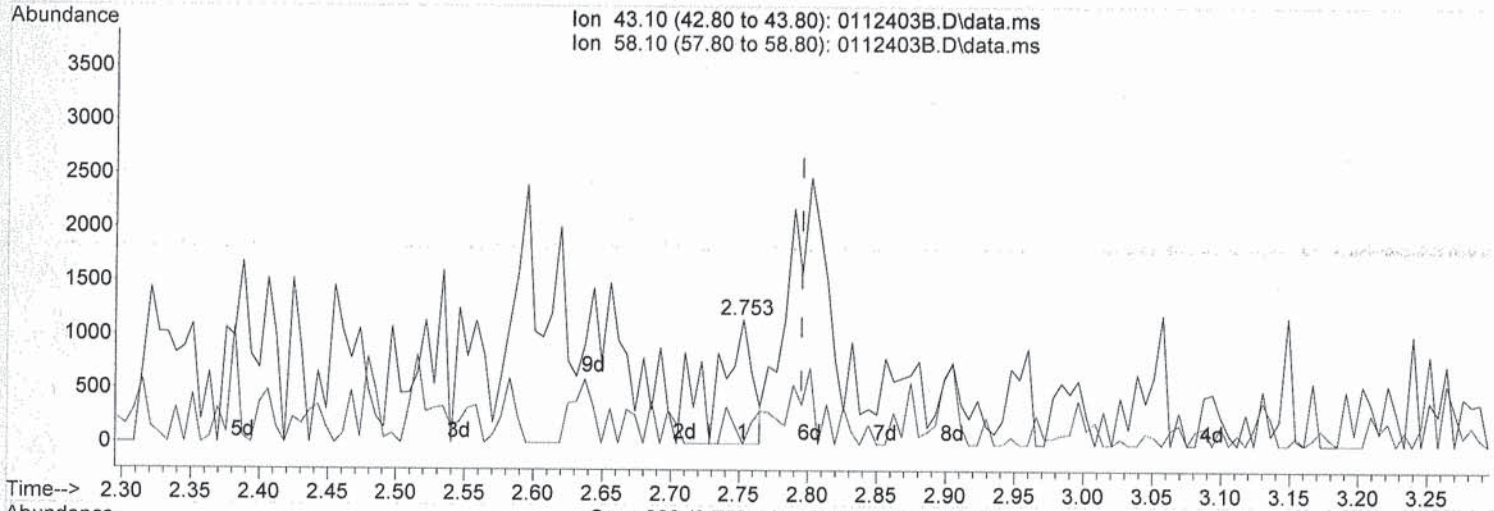
Data Path : C:\msdchem\1\DATA\020615V3\
Data File : 0112403B.D
Acq On : 6 Feb 2015 2:34 pm
Operator :
Sample : 1501124-03
Misc : 1
ALS Vial : 18 Sample Multiplier: 1

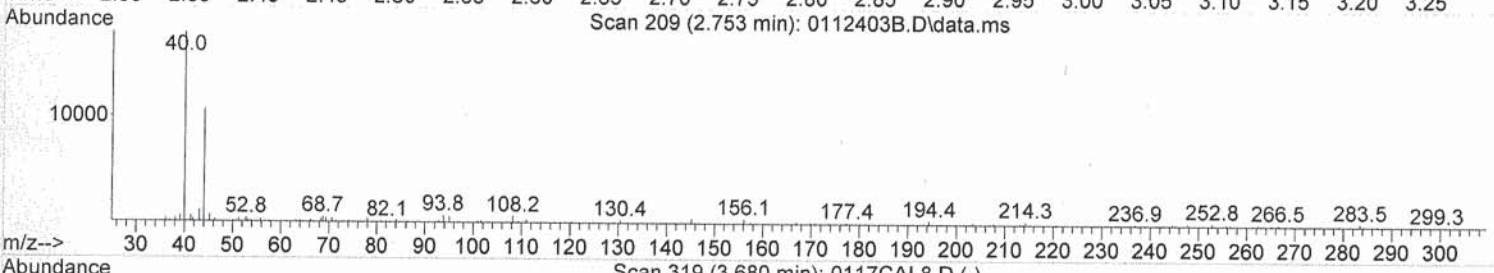
Quant Time: Feb 09 09:05:38 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

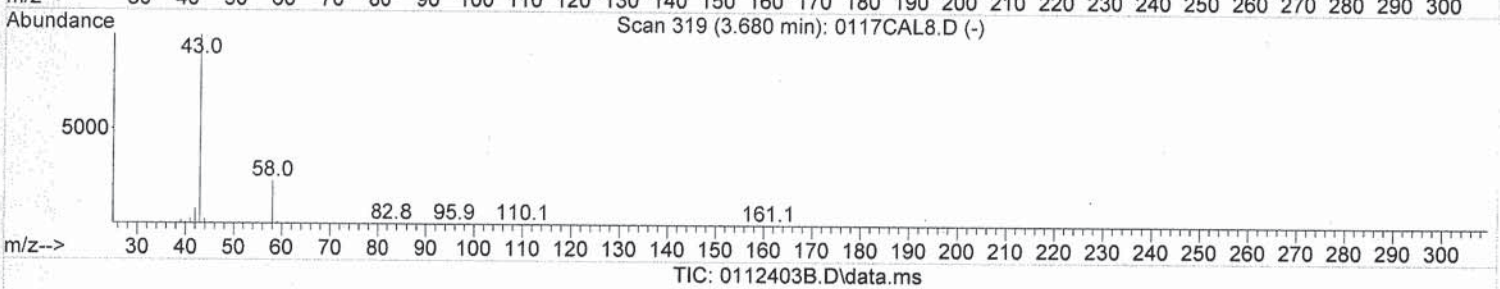


Data Path : C:\msdchem\1\DATA\020615V3\
Data File : 0112403B.D
Acq On : 6 Feb 2015 2:34 pm
Operator :
Sample : 1501124-03
Misc : 1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Feb 09 08:41:00 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration







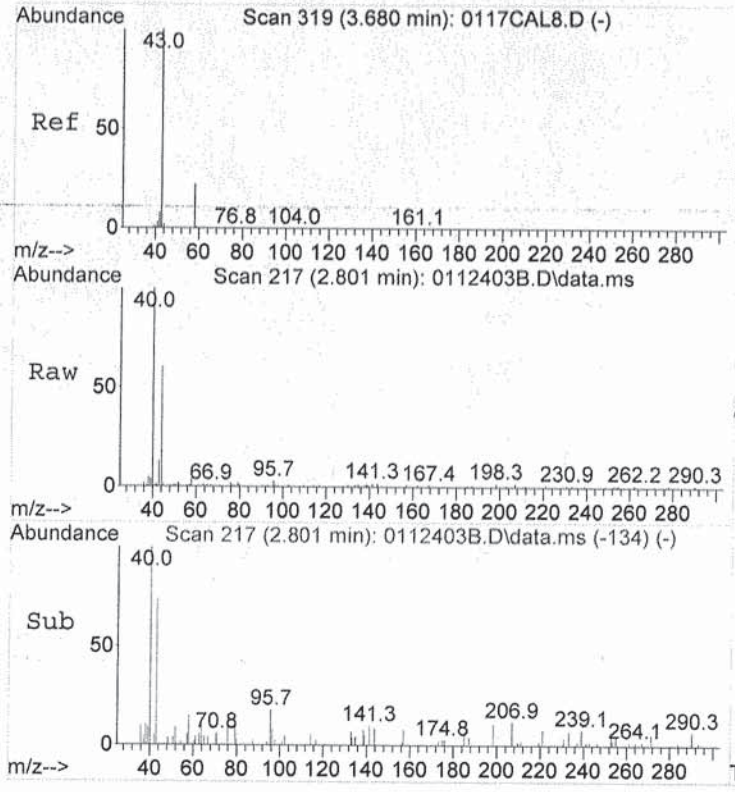
TIC: 0112403B.D\data.ms

(9) Acetone (M)

2.753min (-0.042) 0.27 ug/L

response 1582

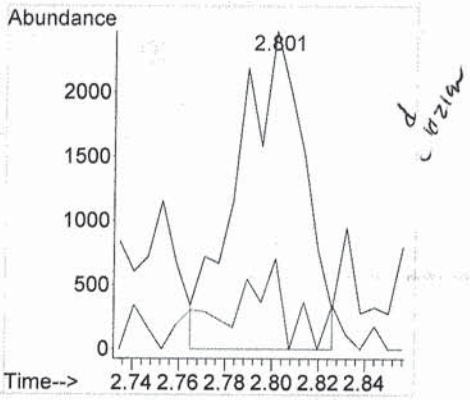
Ion	Exp%	Act%
43.10	100	100
58.10	24.90	27.50
0.00	0.00	0.00
0.00	0.00	0.00

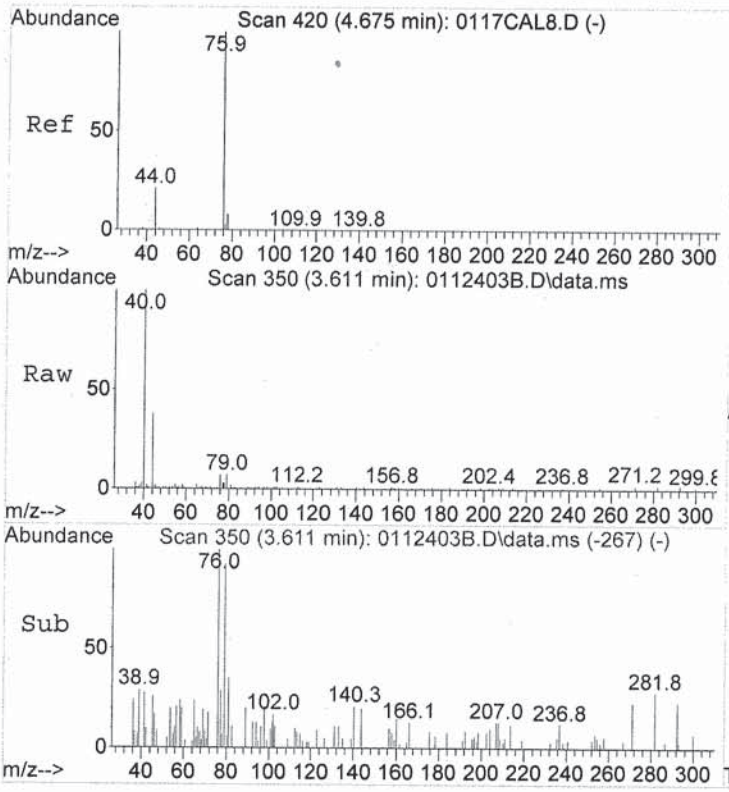


#9
Acetone
Concen: 0.8368 ug/L m
RT: 2.801 min Scan# 217
Delta R.T. 0.006 min
Lab File: 0112403B.D
Acq: 6 Feb 2015 2:34 pm

Tgt Ion: 43 Resp: 4898

Ion	Ratio	Lower	Upper
43	100		
58	8.9	19.9	29.9#

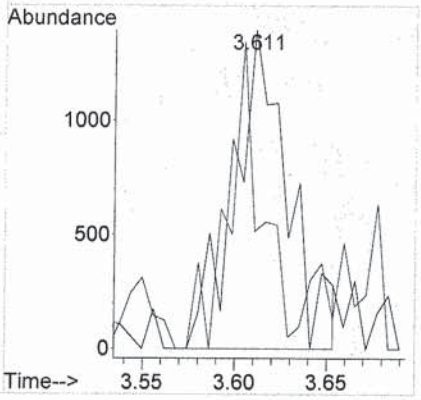


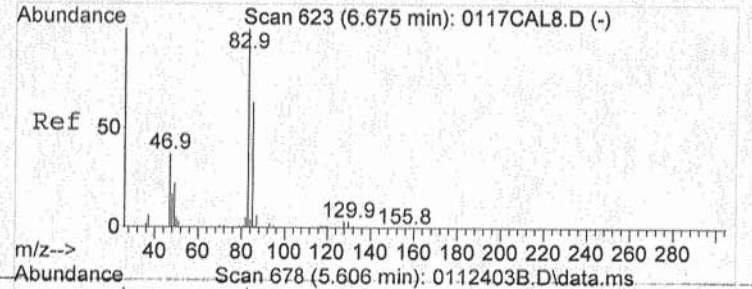


#20
Carbon disulfide
Concen: 0.1140 ug/L
RT: 3.611 min Scan# 350
Delta R.T. 0.007 min
Lab File: 0112403B.D
Acq: 6 Feb 2015 2:34 pm

Tgt Ion: 76 Resp: 2862

Ion	Ratio	Lower	Upper
76	100		
78	58.6	7.4	11.0#

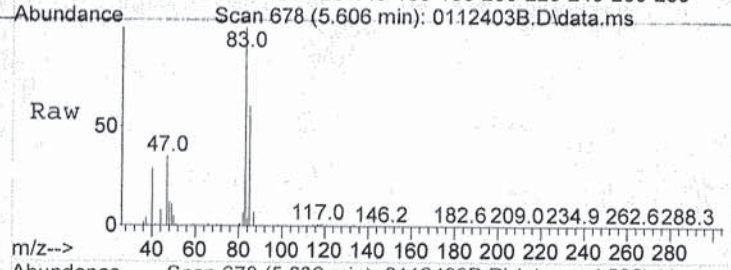


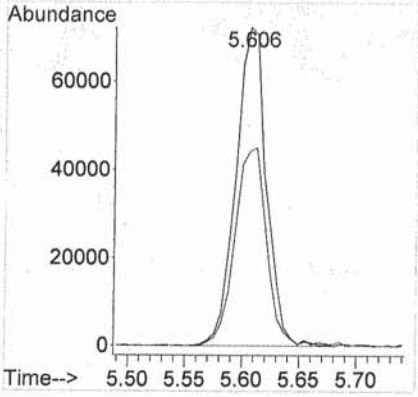


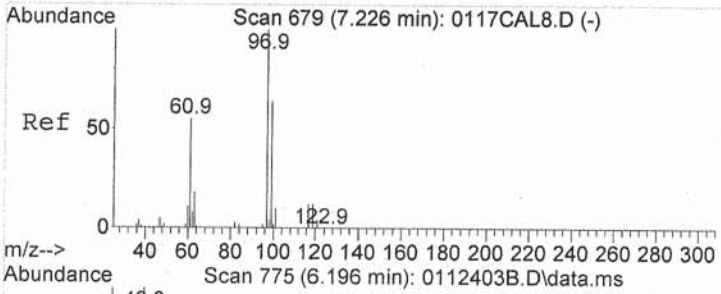
#34
Chloroform
Concen: 7.4551 ug/L
RT: 5.606 min Scan# 678
Delta R.T. -0.000 min
Lab File: 0112403B.D
Acq: 6 Feb 2015 2:34 pm

Tgt Ion: 83 Resp: 134831

Ion	Ratio	Lower	Upper
83	100		
85	64.7	51.4	77.2



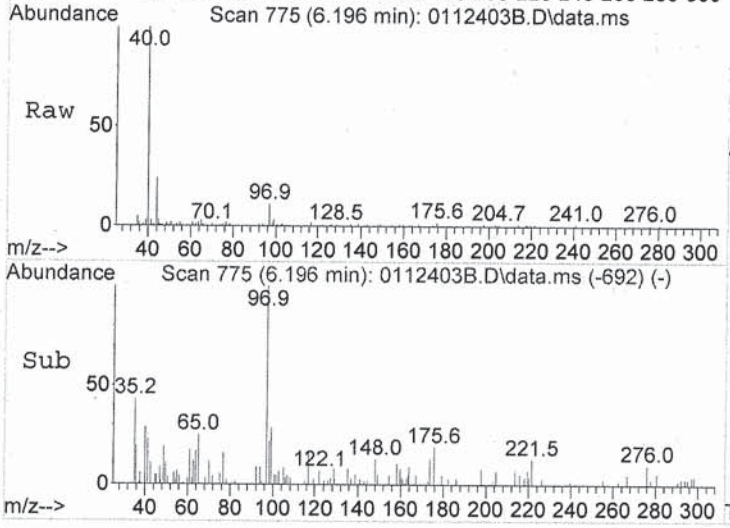


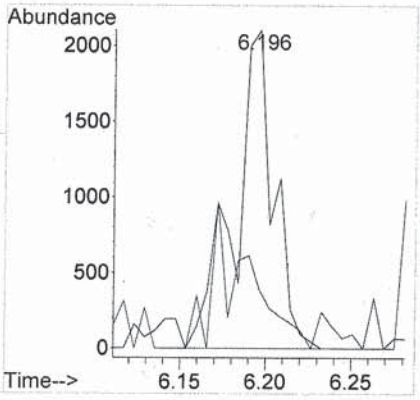


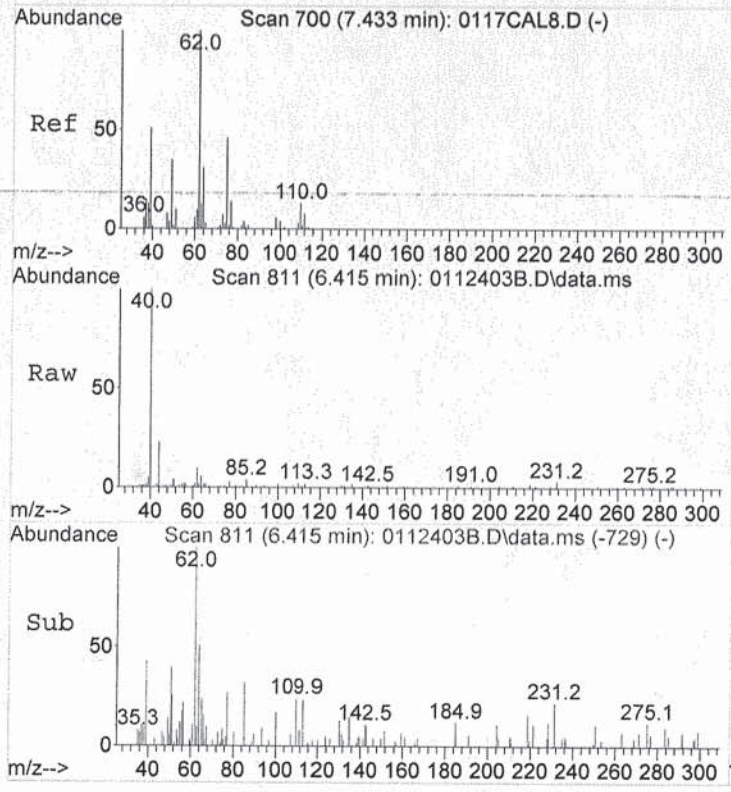
#40
1,1,1-Trichloroethane
Concen: 0.2269 ug/L
RT: 6.196 min Scan# 775
Delta R.T. 0.006 min
Lab File: 0112403B.D
Acq: 6 Feb 2015 2:34 pm

Tgt Ion: 97 Resp: 3331

Ion	Ratio	Lower	Upper
97	100		
61	16.7	41.8	62.8#



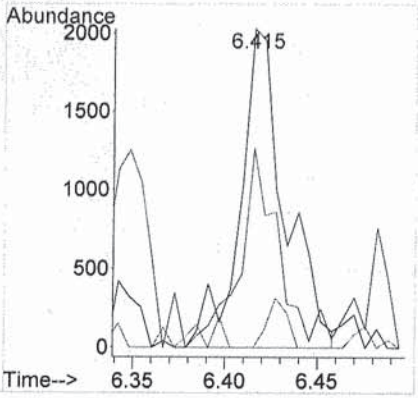


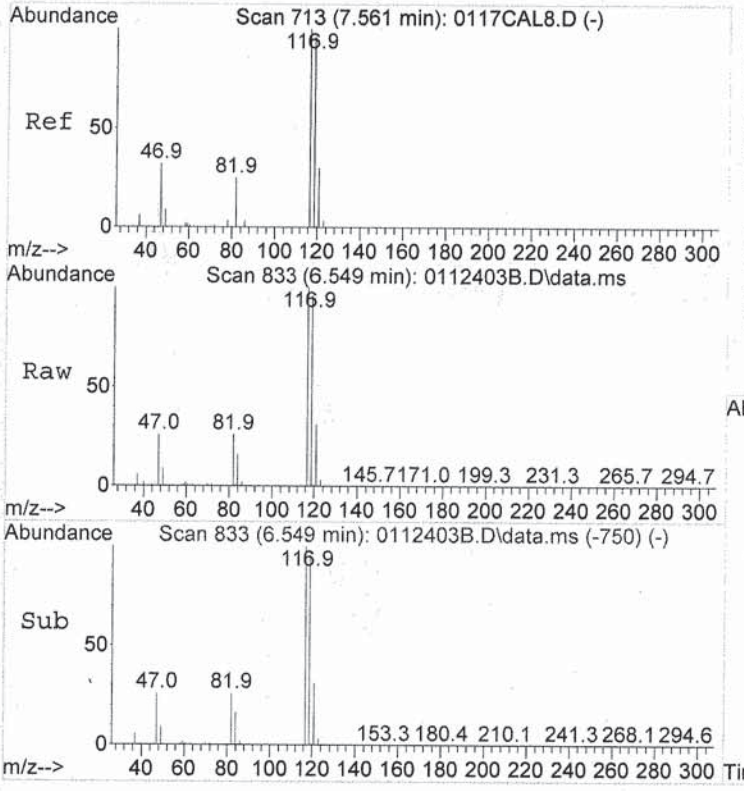


#42
1,2-Dichloroethane
Concen: 0.2005 ug/L
RT: 6.415 min Scan# 811
Delta R.T. 0.000 min
Lab File: 0112403B.D
Acq: 6 Feb 2015 2:34 pm

Tgt Ion: 62 Resp: 3422

Ion	Ratio	Lower	Upper
62	100		
64	46.1	25.0	37.6#
98	6.9	6.2	9.2

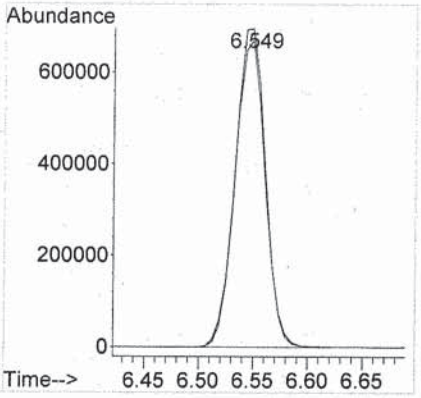


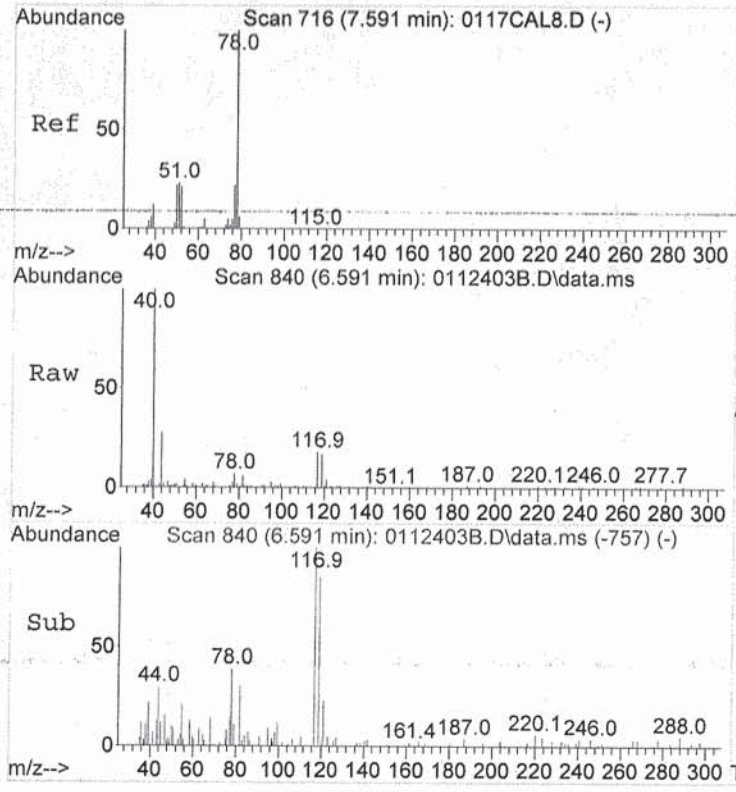


#45
Carbon tetrachloride
Concen: 117.8931 ug/L
RT: 6.549 min Scan# 833
Delta R.T. 0.006 min
Lab File: 0112403B.D
Acq: 6 Feb 2015 2:34 pm

Tgt Ion:117 Resp: 1349817

Ion	Ratio	Lower	Upper
117	100		
119	94.4	75.9	113.9

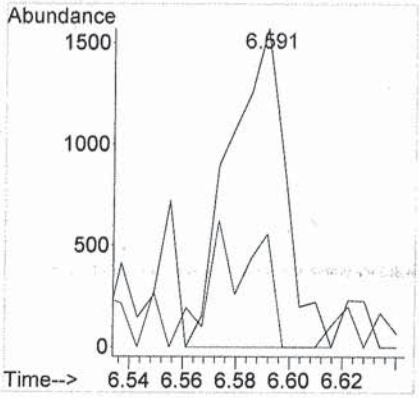


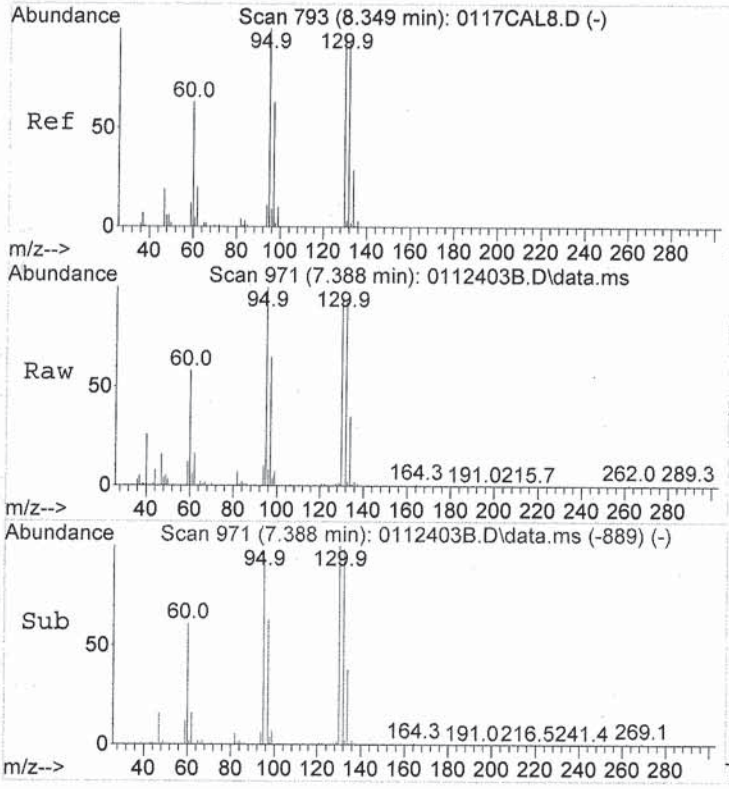


#46
Benzene
Concen: 0.0613 ug/L
RT: 6.591 min Scan# 840
Delta R.T. 0.006 min
Lab File: 0112403B.D
Acq: 6 Feb 2015 2:34 pm

Tgt Ion: 78 Resp: 2305

Ion	Ratio	Lower	Upper
78	100		
77	0.0	18.9	28.3#

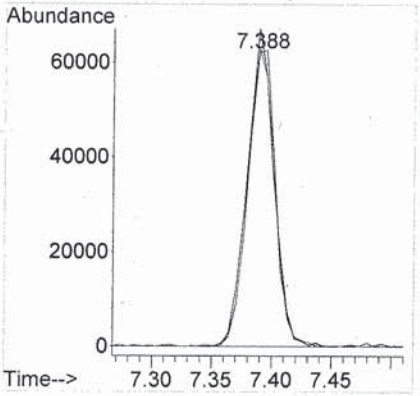


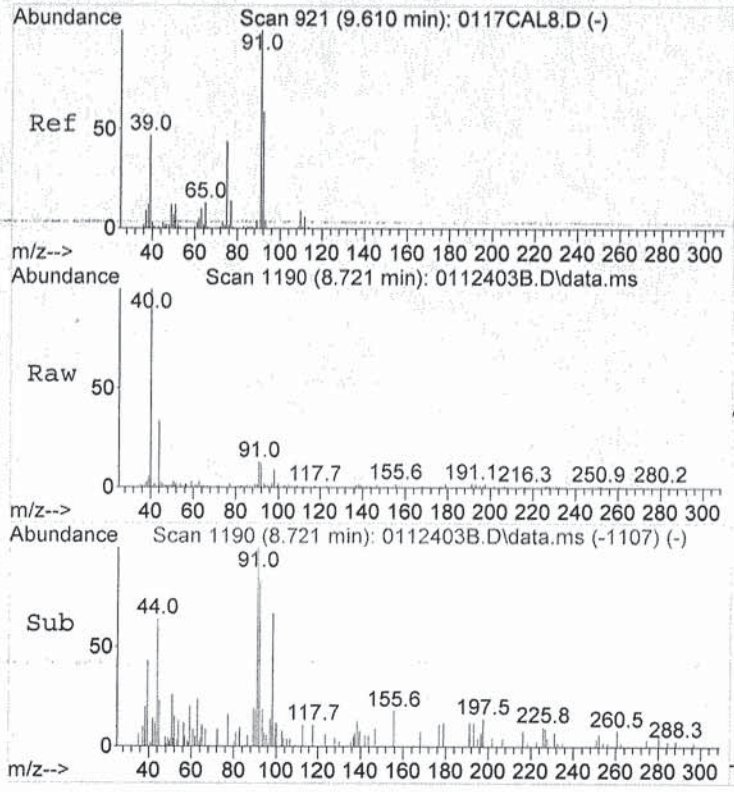


#48
Trichloroethene
Concen: 10.5281 ug/L
RT: 7.388 min Scan# 971
Delta R.T. 0.000 min
Lab File: 0112403B.D
Acq: 6 Feb 2015 2:34 pm

Tgt Ion: 95 Resp: 103545

Ion	Ratio	Lower	Upper
95	100		
132	97.5	76.6	114.8
130	95.7	82.5	123.7

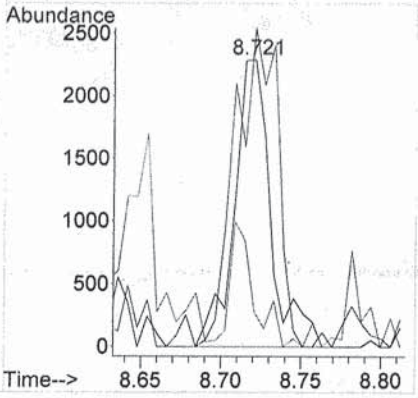


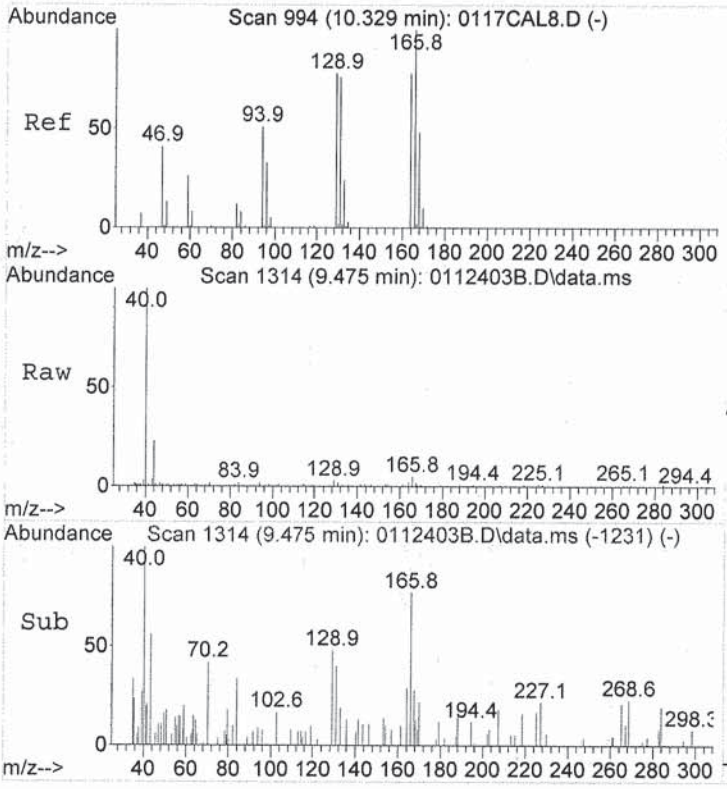


#62
Toluene
Concen: 0.1473 ug/L
RT: 8.721 min Scan# 1190
Delta R.T. 0.006 min
Lab File: 0112403B.D
Acq: 6 Feb 2015 2:34 pm

Tgt Ion: 92 Resp: 3632

Ion	Ratio	Lower	Upper
92	100		
91	129.1	134.1	201.1#
65	29.0	17.0	25.4#

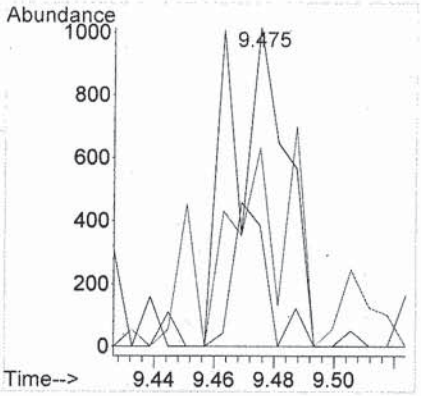


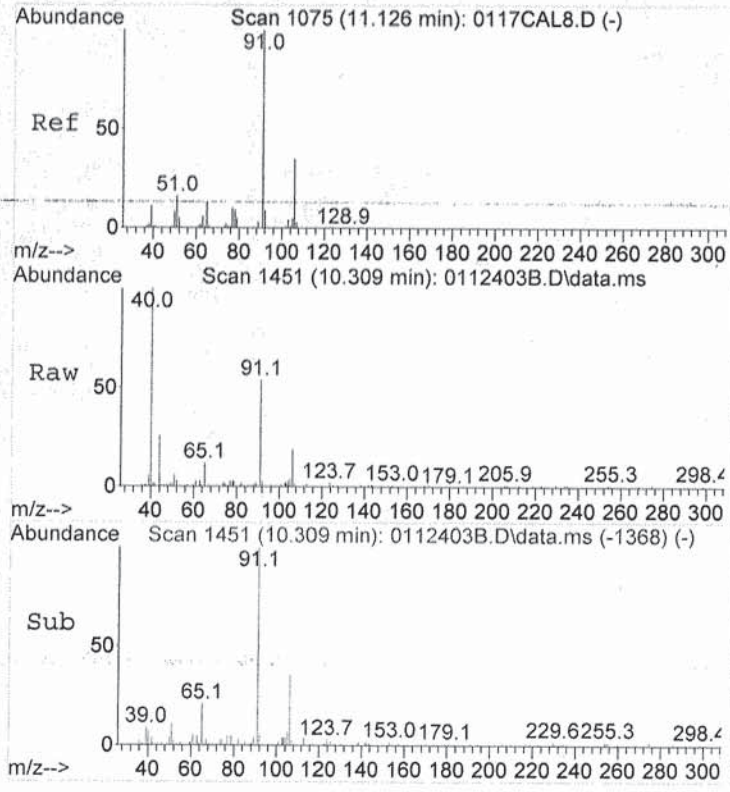


#68
Tetrachloroethene
Concen: 0.1341 ug/L
RT: 9.475 min Scan# 1314
Delta R.T. 0.006 min
Lab File: 0112403B.D
Acq: 6 Feb 2015 2:34 pm

Tgt Ion:166 Resp: 1310

Ion	Ratio	Lower	Upper
166	100		
164	28.0	62.6	94.0#
129	64.1	61.2	91.8

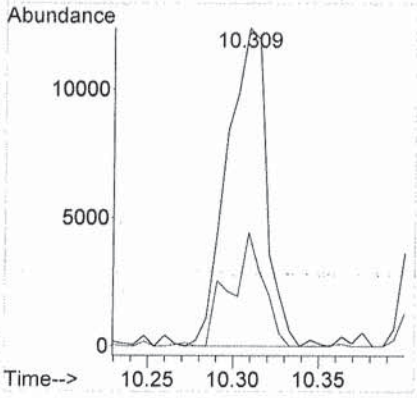


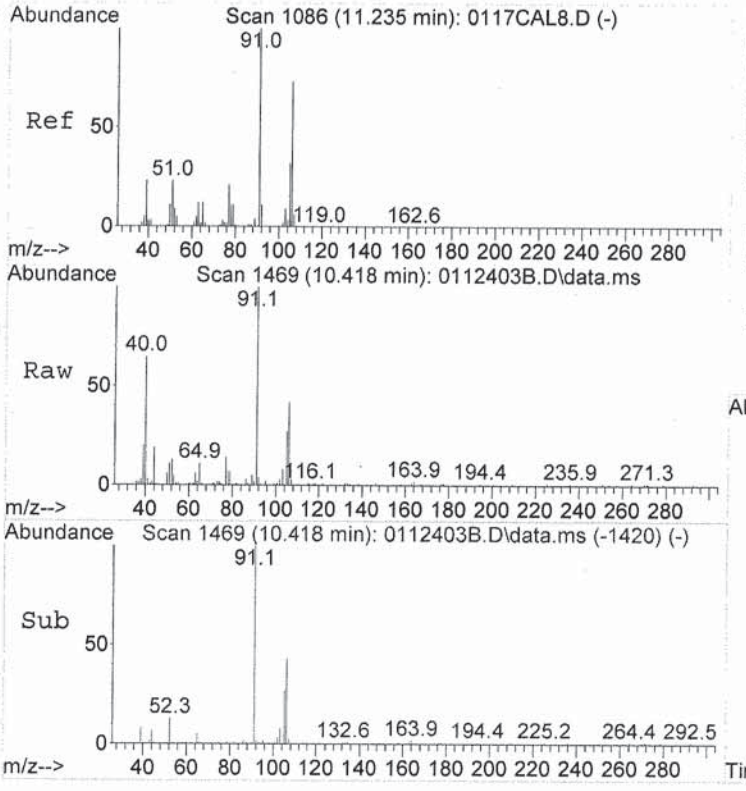


#73
Ethylbenzene
Concen: 0.4687 ug/L
RT: 10.309 min Scan# 1451
Delta R.T. 0.007 min
Lab File: 0112403B.D
Acq: 6 Feb 2015 2:34 pm

Tgt Ion: 91 Resp: 20044

Ion	Ratio	Lower	Upper
91	100		
106	30.5	26.2	39.4

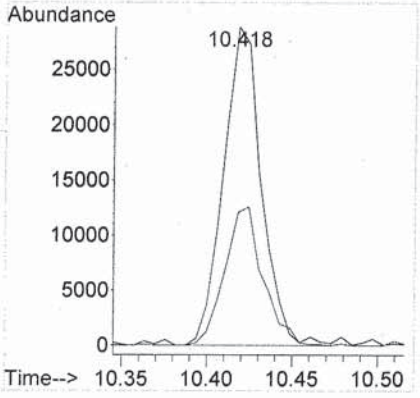


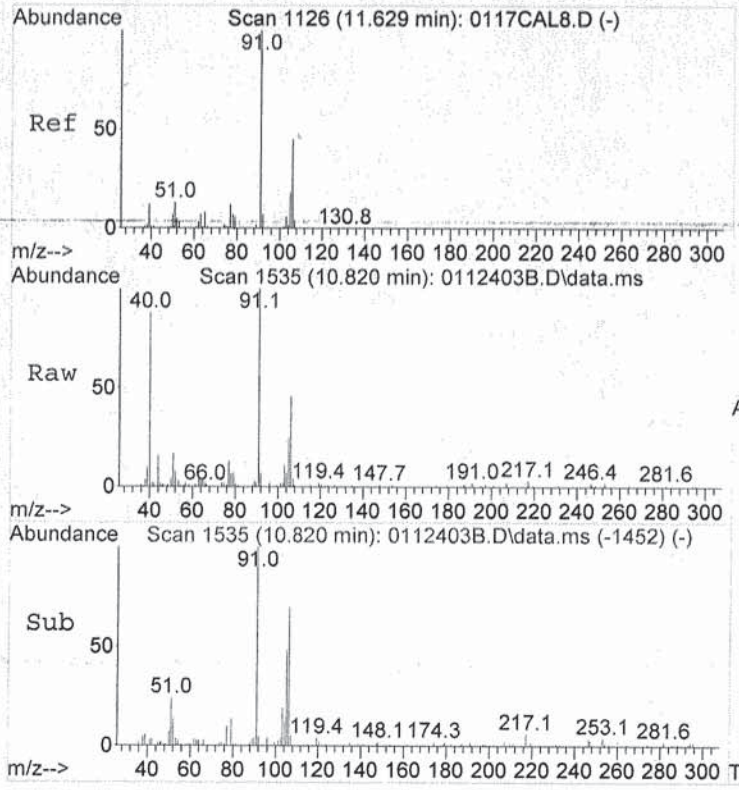


#74
m,p-Xylene
Concen: 1.3204 ug/L
RT: 10.418 min Scan# 1469
Delta R.T. 0.000 min
Lab File: 0112403B.D
Acq: 6 Feb 2015 2:34 pm

Tgt Ion: 91 Resp: 44695

Ion	Ratio	Lower	Upper
91	100		
106	44.0	41.2	61.8

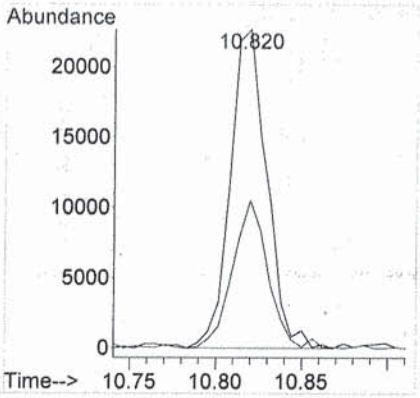


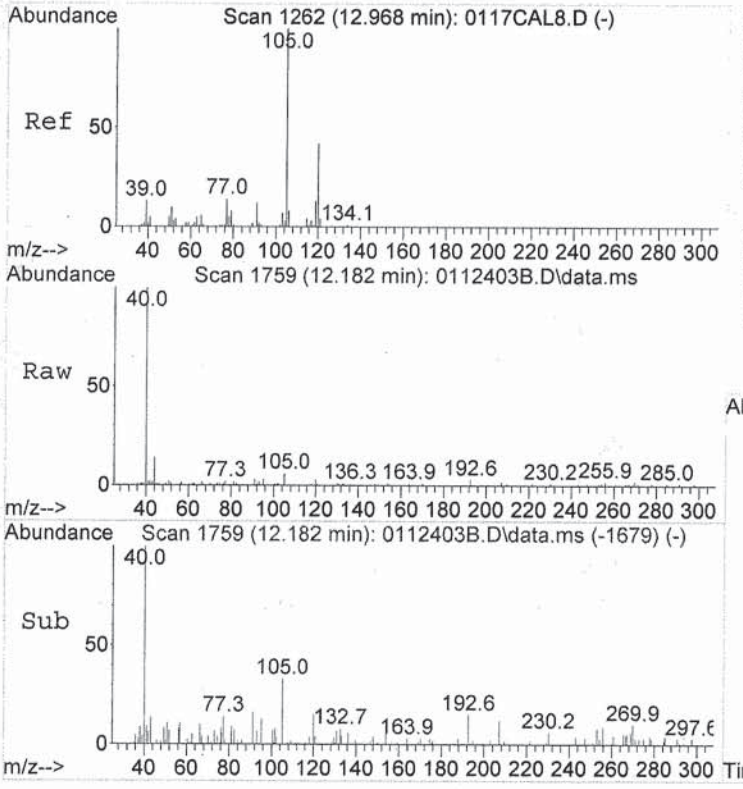


#76
o-Xylene
Concen: 0.9194 ug/L
RT: 10.820 min Scan# 1535
Delta R.T. 0.007 min
Lab File: 0112403B.D
Acq: 6 Feb 2015 2:34 pm

Tgt Ion: 91 Resp: 33507

Ion	Ratio	Lower	Upper
91	100		
106	45.2	38.5	57.7

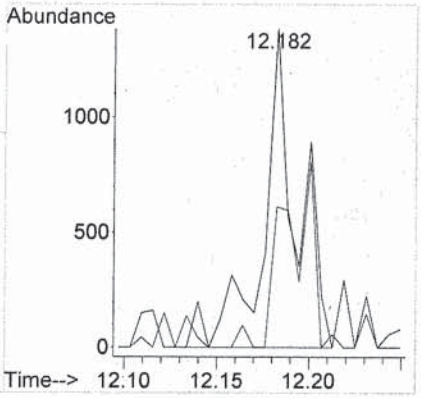




#91
1,2,4-Trimethylbenzene
Concen: 0.0525 ug/L
RT: 12.182 min Scan# 1759
Delta R.T. -0.012 min
Lab File: 0112403B.D
Acq: 6 Feb 2015 2:34 pm

Tgt Ion:105 Resp: 1761

Ion	Ratio	Lower	Upper
105	100		
120	50.9	44.2	66.2



Data Path : C:\msdchem\1\DATA\020615V3\
Data File : 0112404B.D
Acq On : 6 Feb 2015 2:59 pm
Operator :
Sample : 1501124-04
Misc : 1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Feb 09 09:08:50 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

(02/14)

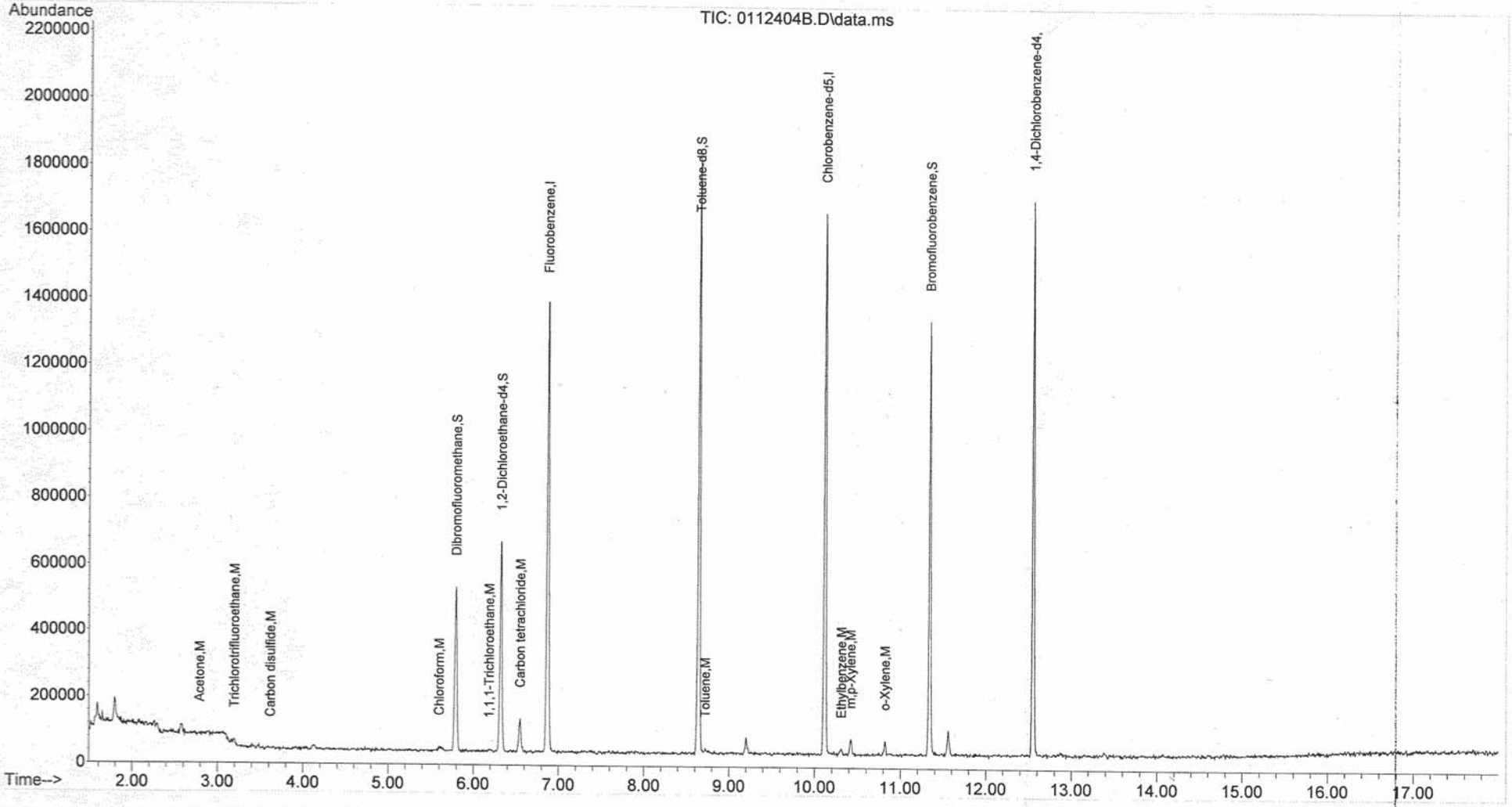
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	6.865	96	986137	30.00	ug/L		0.00
59) Chlorobenzene-d5	10.114	82	416476	30.00	ug/L		0.00
81) 1,4-Dichlorobenzene-d4	12.547	152	353299	30.00	ug/L	#	0.00
System Monitoring Compounds							
37) Dibromofluoromethane	5.794	111	279138	30.83	ug/L		0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 102.77%				
41) 1,2-Dichloroethane-d4	6.324	102	63923	29.13	ug/L		0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 97.10%				
60) Toluene-d8	8.642	98	975364	29.35	ug/L		0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 97.83%				
80) Bromofluorobenzene	11.337	95	361696	29.07	ug/L		0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 96.90%				
Target Compounds							Qvalue
9) Acetone	2.789	43	5986m	1.0346	ug/L		
13) Trichlorotrifluoroethane	3.197	101	10312	1.2355	ug/L		100
20) Carbon disulfide	3.617	76	2081	0.0838	ug/L	#	50
34) Chloroform	5.600	83	7216	0.4036	ug/L		95
40) 1,1,1-Trichloroethane	6.184	97	3796m	0.2616	ug/L		
45) Carbon tetrachloride	6.549	117	56274	4.9723	ug/L		92
62) Toluene	8.721	92	1690	0.0700	ug/L	#	31
73) Ethylbenzene	10.308	91	10980	0.2621	ug/L		90
74) m,p-Xylene	10.418	91	22856	0.6895	ug/L		96
76) o-Xylene	10.819	91	19403	0.5436	ug/L		87

(#) = qualifier out of range (m) = manual integration (+) = signals summed

02/10/15

Data Path : C:\msdchem\1\DATA\020615V3\
Data File : 0112404B.D
Acq On : 6 Feb 2015 2:59 pm
Operator :
Sample : 1501124-04
Misc : 1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Feb 09 09:08:50 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

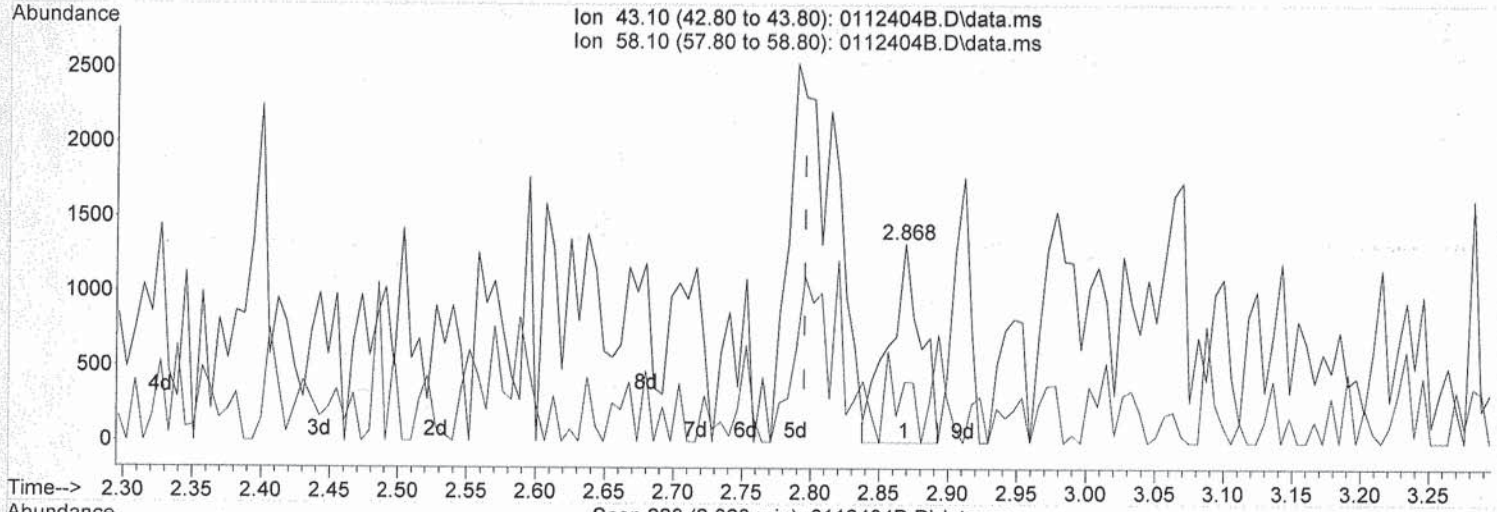


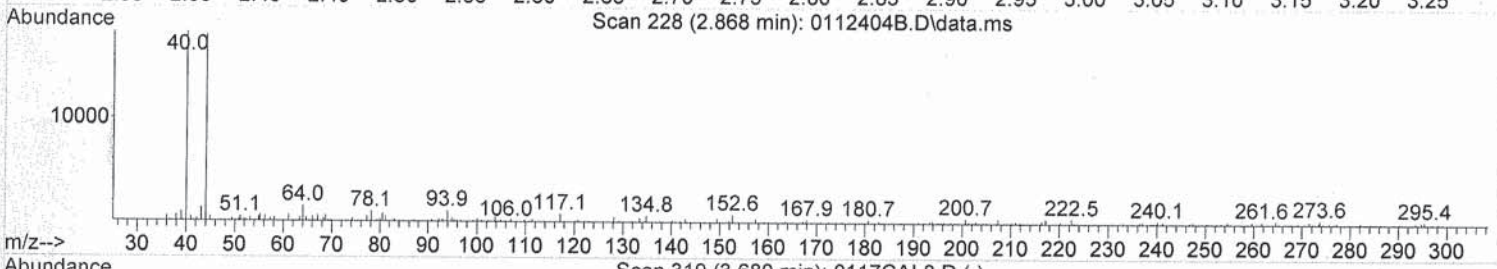
101614W3.M Mon Feb 09 09:08:58 2015

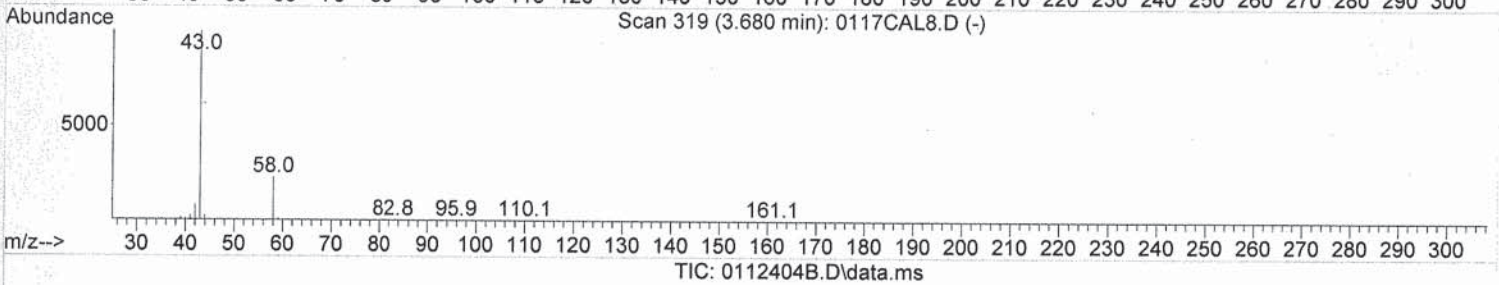
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\020615V3\
Data File : 0112404B.D
Acq On : 6 Feb 2015 2:59 pm
Operator :
Sample : 1501124-04
Misc : 1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Feb 09 09:06:14 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration







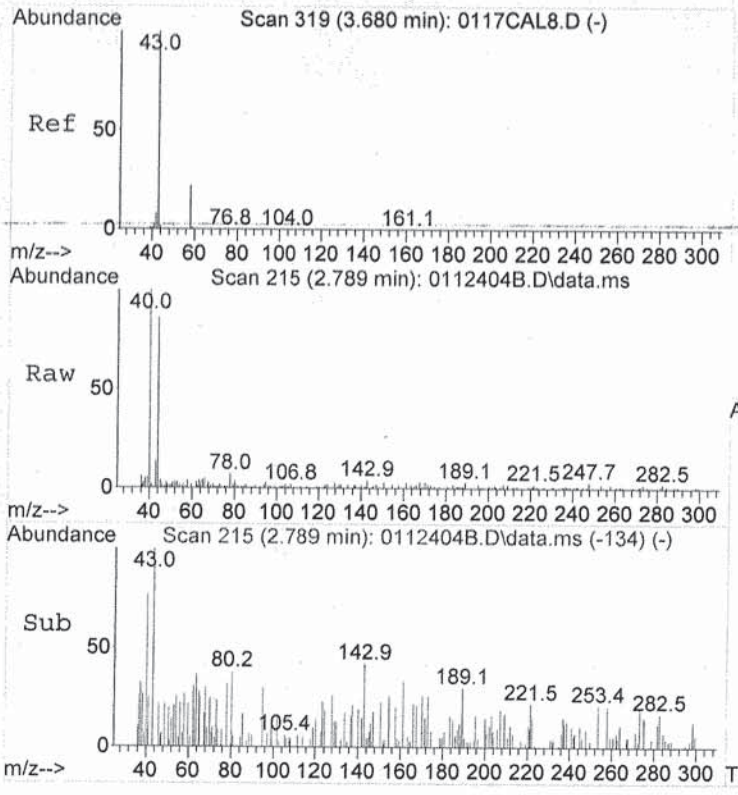
TIC: 0112404B.D\data.ms

(9) Acetone (M)

2.868min (+0.073) 0.37 ug/L

response 2117

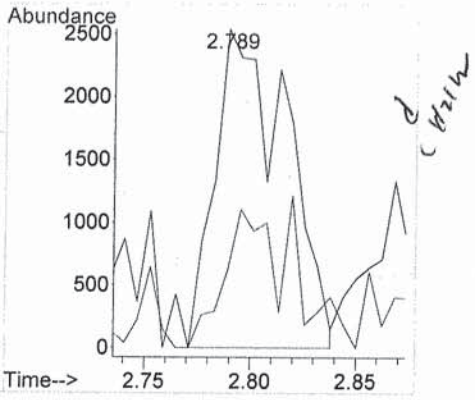
Ion	Exp%	Act%
43.10	100	100
58.10	24.90	27.54
0.00	0.00	0.00
0.00	0.00	0.00

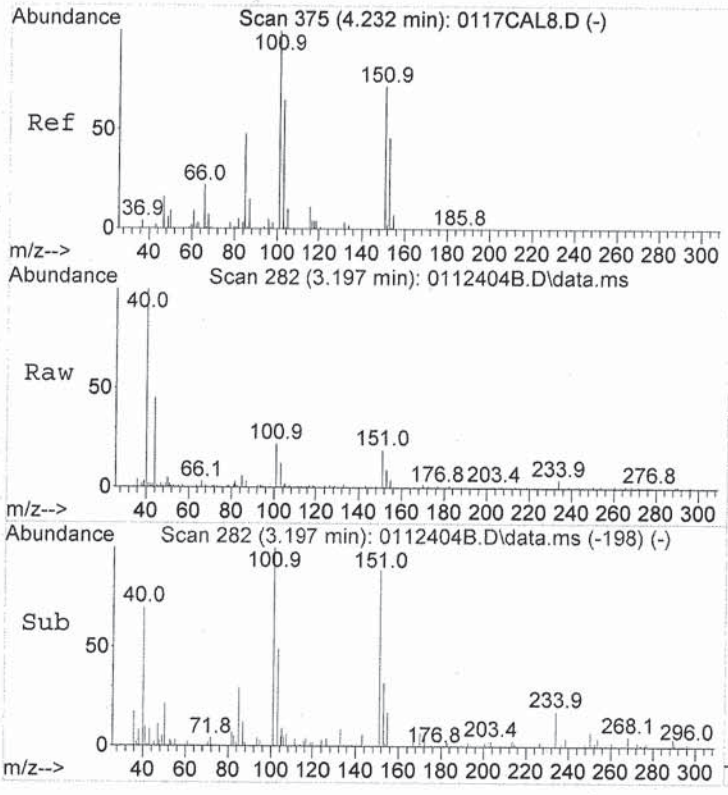


#9
Acetone
Concen: 1.0346 ug/L m
RT: 2.789 min Scan# 215
Delta R.T. -0.006 min
Lab File: 0112404B.D
Acq: 6 Feb 2015 2:59 pm

Tgt Ion: 43 Resp: 5986

Ion	Ratio	Lower	Upper
43	100		
58	9.7	19.9	29.9#

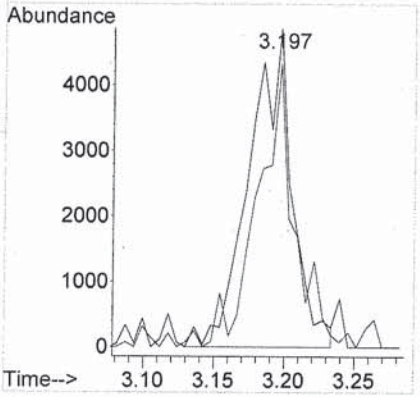


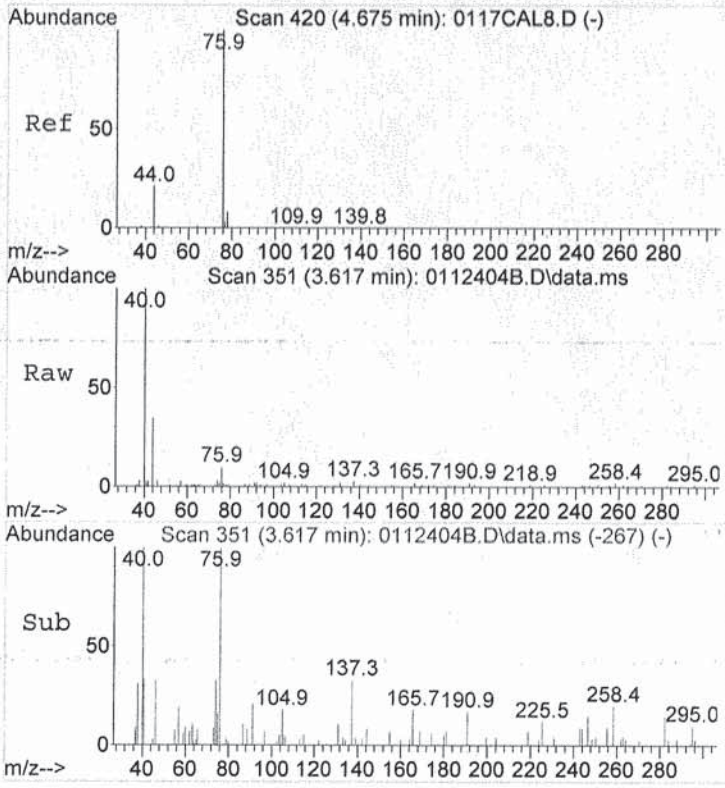


#13
Trichlorotrifluoroethane
Concen: 1.2355 ug/L
RT: 3.197 min Scan# 282
Delta R.T. 0.012 min
Lab File: 0112404B.D
Acq: 6 Feb 2015 2:59 pm

Tgt Ion:101 Resp: 10312

Ion	Ratio	Lower	Upper
101	100		
151	77.2	61.7	92.5

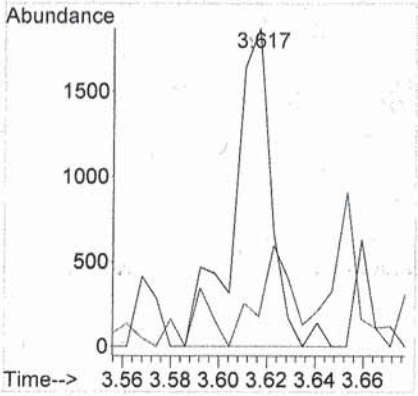


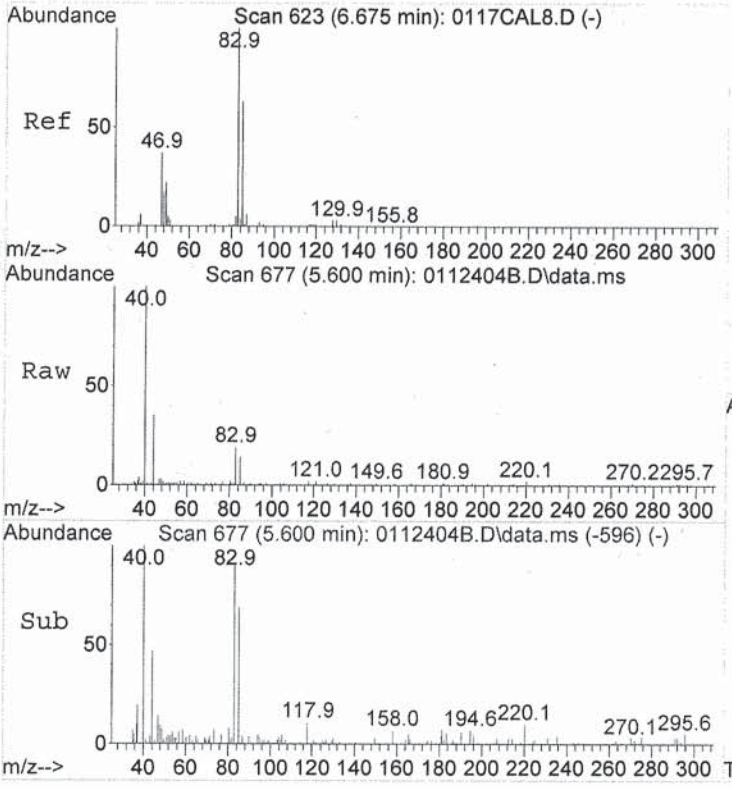


#20
Carbon disulfide
Concen: 0.0838 ug/L
RT: 3.617 min Scan# 351
Delta R.T. 0.013 min
Lab File: 0112404B.D
Acq: 6 Feb 2015 2:59 pm

Tgt Ion: 76 Resp: 2081

Ion	Ratio	Lower	Upper
76	100		
78	27.2	7.4	11.0#

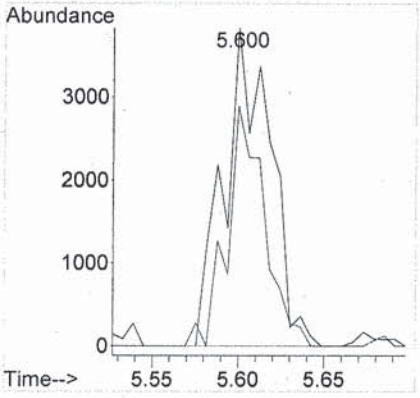




#34
Chloroform
Concen: 0.4036 ug/L
RT: 5.600 min Scan# 677
Delta R.T. -0.006 min
Lab File: 0112404B.D
Acq: 6 Feb 2015 2:59 pm

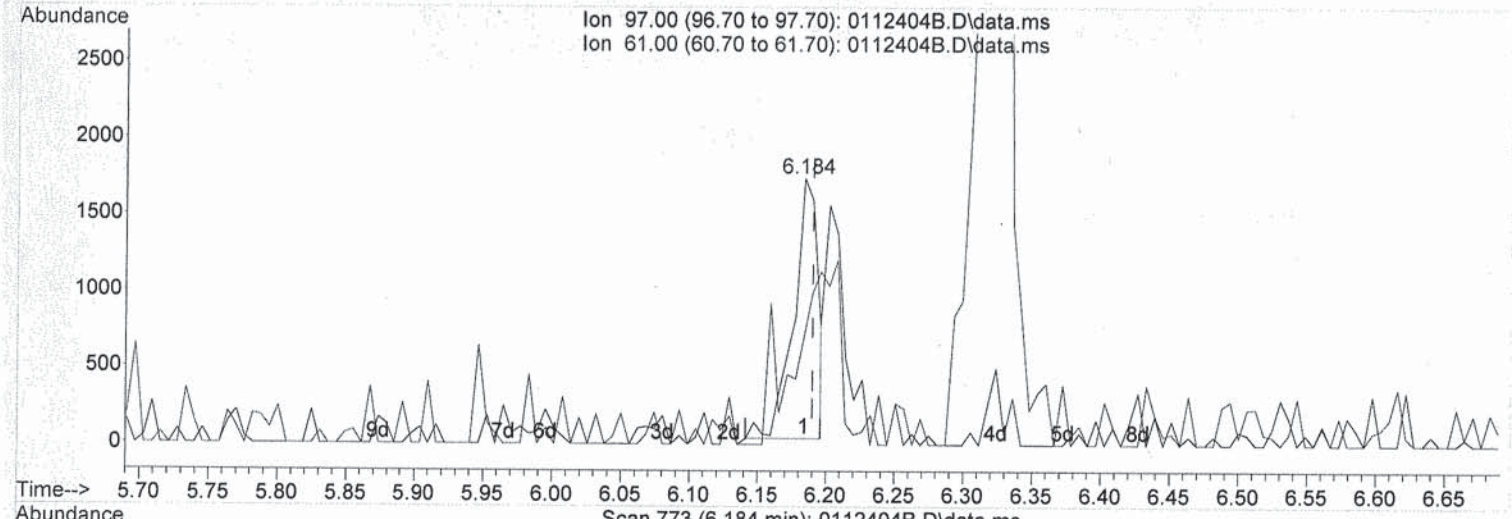
Tgt Ion: 83 Resp: 7216

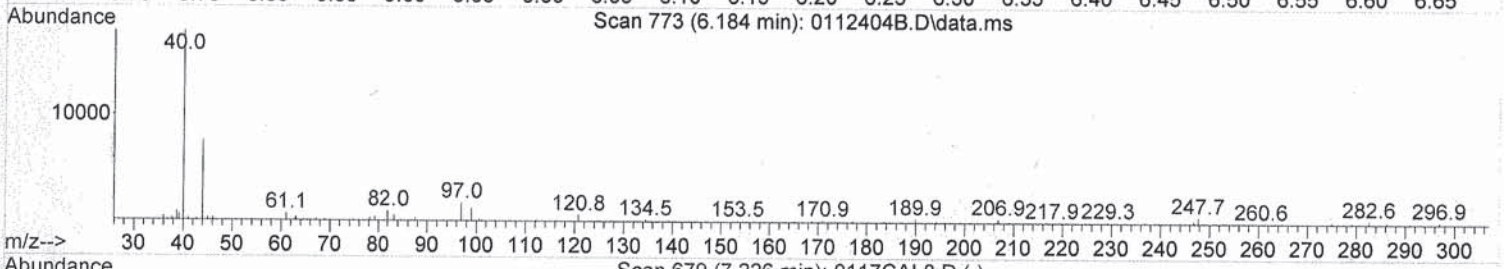
Ion	Ratio	Lower	Upper
83	100		
85	60.5	51.4	77.2

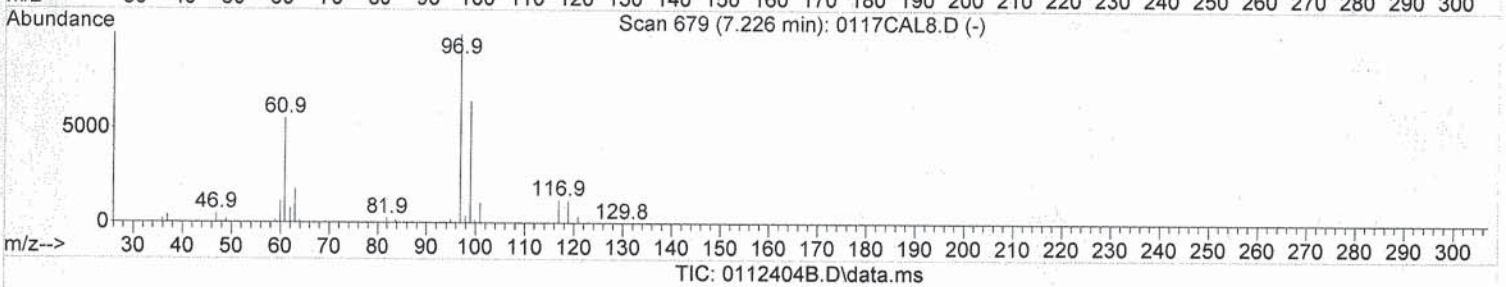


Data Path : C:\msdchem\1\DATA\020615V3\
Data File : 0112404B.D
Acq On : 6 Feb 2015 2:59 pm
Operator :
Sample : 1501124-04
Misc : 1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Feb 09 09:06:14 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration







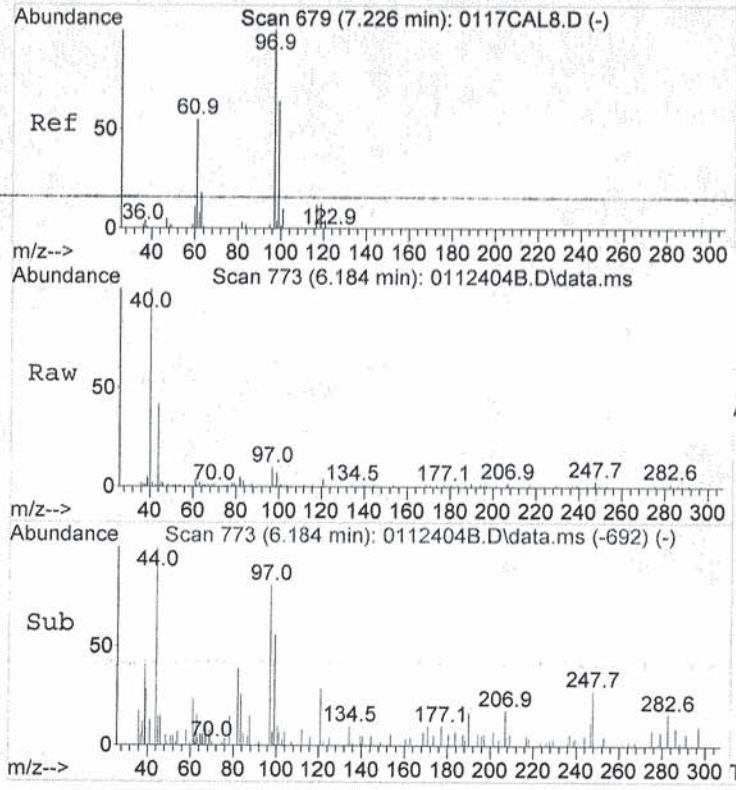
TIC: 0112404B.D\data.ms

(40) 1,1,1-Trichloroethane (M)

6.184min (-0.006) 0.15 ug/L

response 2110

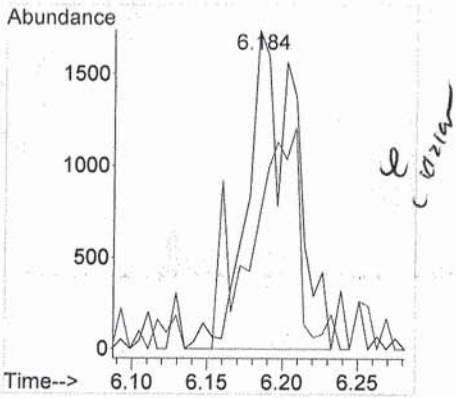
Ion	Exp%	Act%
97.00	100	100
61.00	52.30	85.45#
0.00	0.00	0.00
0.00	0.00	0.00

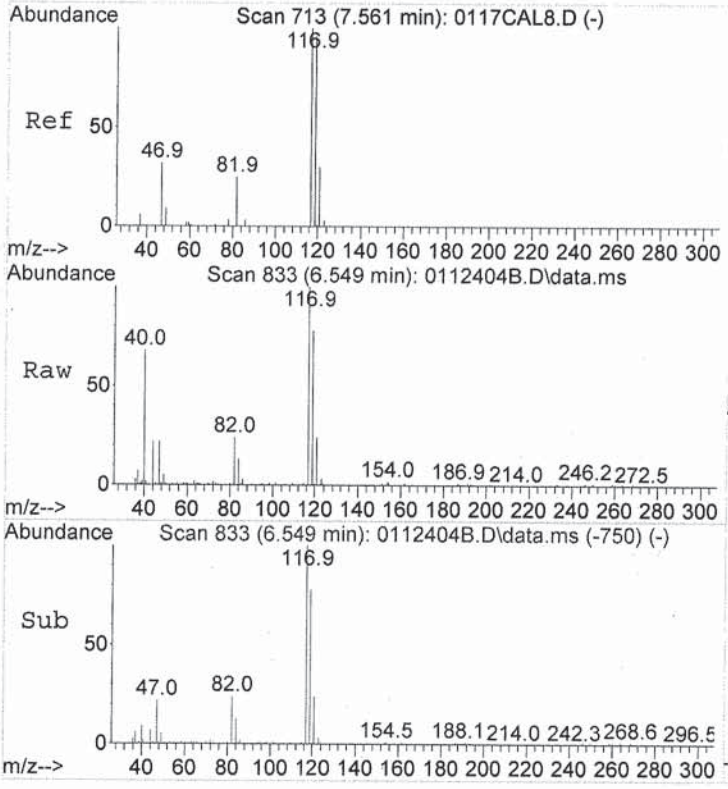


#40
1,1,1-Trichloroethane
Concen: 0.2616 ug/L m
RT: 6.184 min Scan# 773
Delta R.T. -0.006 min
Lab File: 0112404B.D
Acq: 6 Feb 2015 2:59 pm

Tgt Ion: 97 Resp: 3796

Ion	Ratio	Lower	Upper
97	100		
61	47.5	41.8	62.8

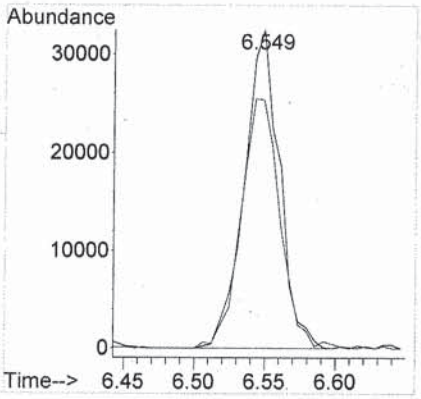


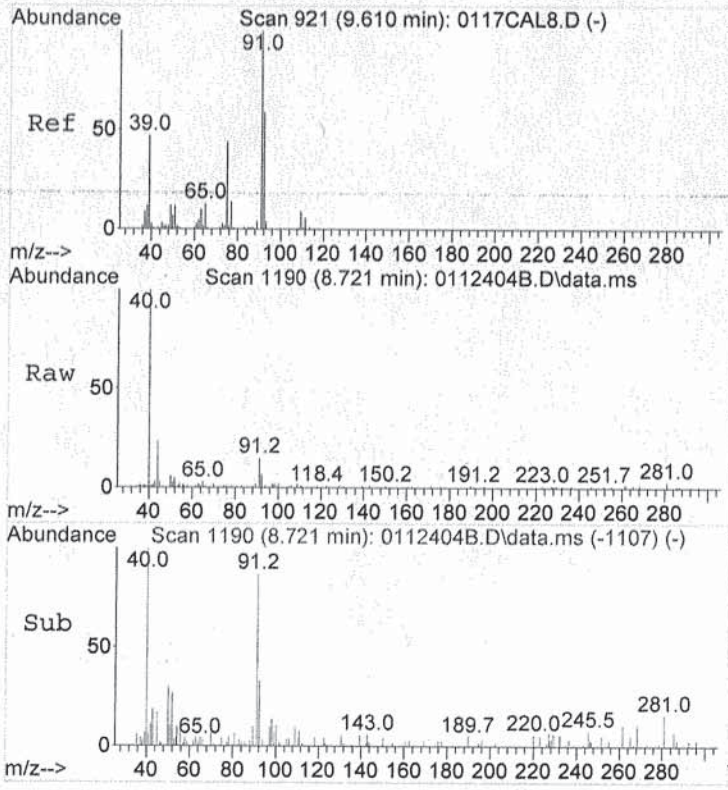


#45
Carbon tetrachloride
Concen: 4.9723 ug/L
RT: 6.549 min Scan# 833
Delta R.T. 0.006 min
Lab File: 0112404B.D
Acq: 6 Feb 2015 2:59 pm

Tgt Ion:117 Resp: 56274

Ion	Ratio	Lower	Upper
117	100		
119	87.1	75.9	113.9

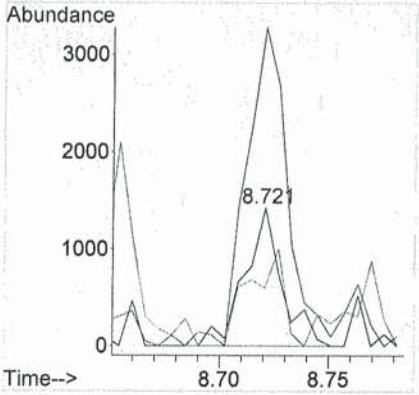


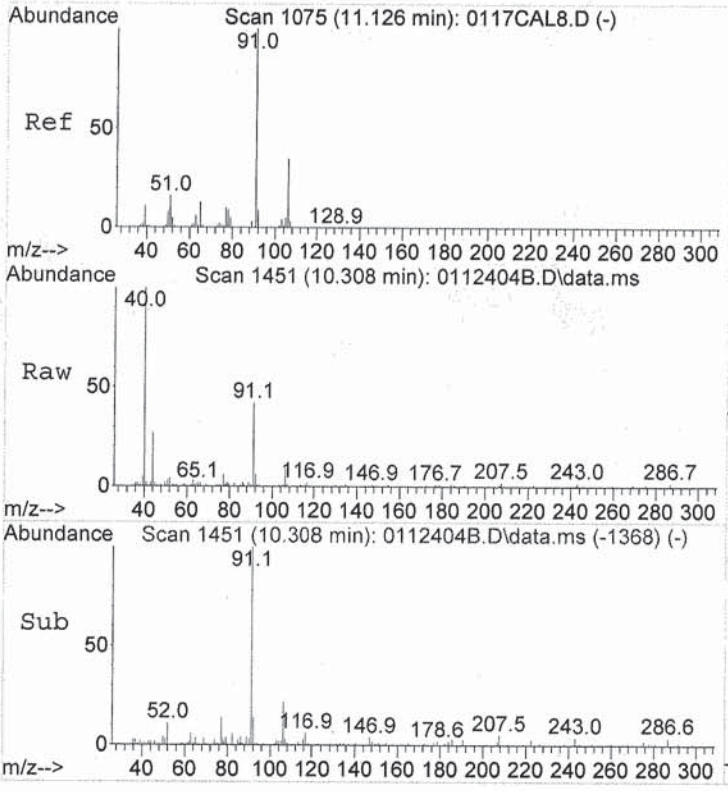


#62
Toluene
Concen: 0.0700 ug/L
RT: 8.721 min Scan# 1190
Delta R.T. 0.006 min
Lab File: 0112404B.D
Acq: 6 Feb 2015 2:59 pm

Tgt Ion: 92 Resp: 1690

Ion	Ratio	Lower	Upper
92	100		
91	257.6	134.1	201.1#
65	65.4	17.0	25.4#

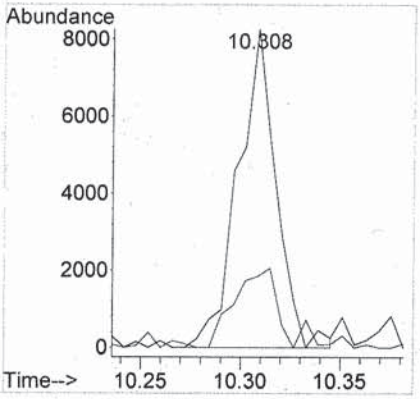


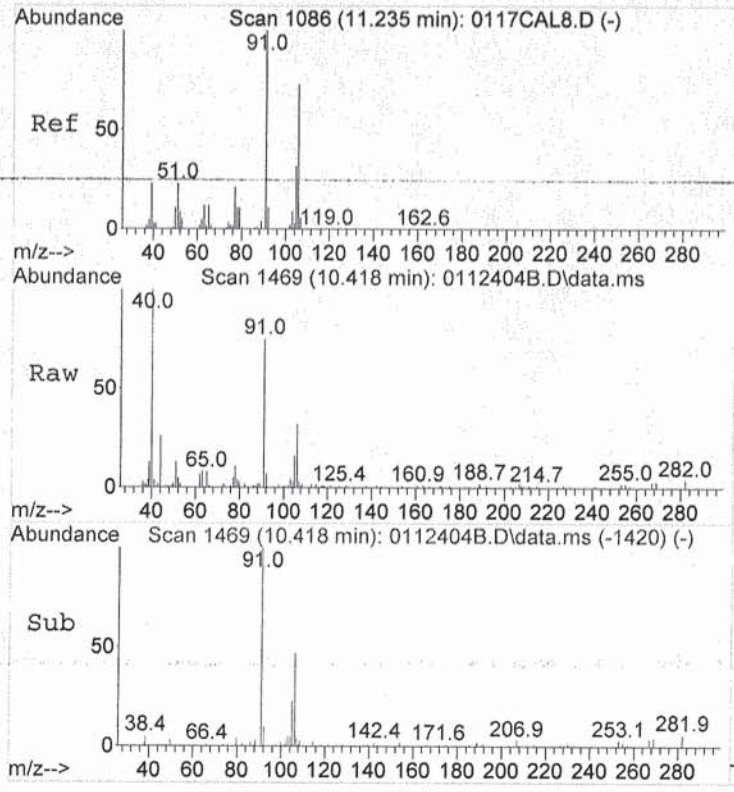


#73
Ethylbenzene
Concen: 0.2621 ug/L
RT: 10.308 min Scan# 1451
Delta R.T. 0.006 min
Lab File: 0112404B.D
Acq: 6 Feb 2015 2:59 pm

Tgt Ion: 91 Resp: 10980

Ion	Ratio	Lower	Upper
91	100		
106	27.2	26.2	39.4

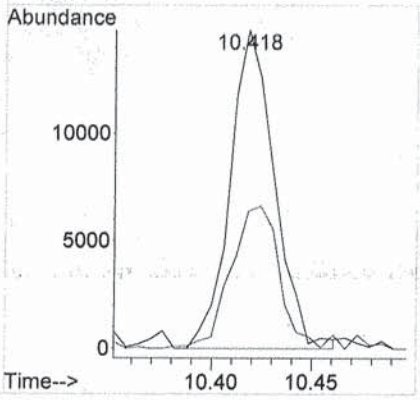


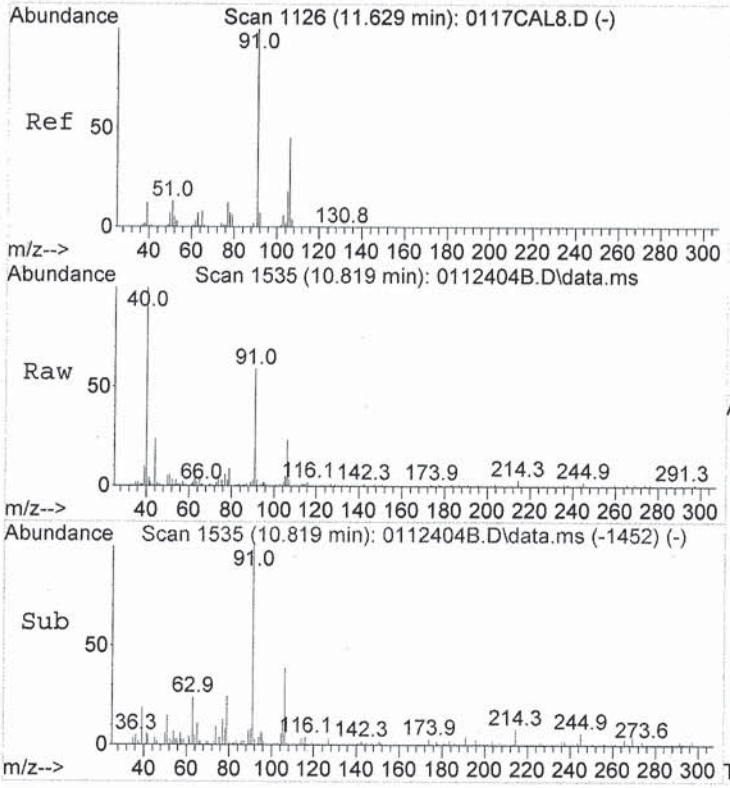


#74
m,p-Xylene
Concen: 0.6895 ug/L
RT: 10.418 min Scan# 1469
Delta R.T. -0.000 min
Lab File: 0112404B.D
Acq: 6 Feb 2015 2:59 pm

Tgt Ion: 91 Resp: 22856

Ion	Ratio	Lower	Upper
91	100		
106	48.4	41.2	61.8

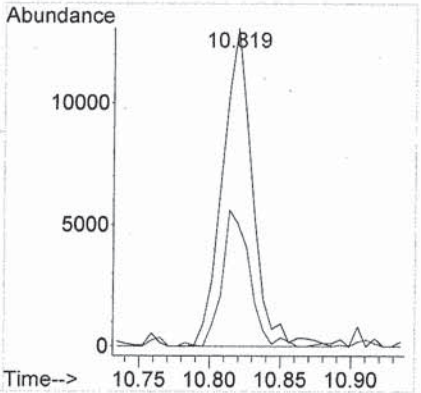




#76
o-Xylene
Concen: 0.5436 ug/L
RT: 10.819 min Scan# 1535
Delta R.T. 0.006 min
Lab File: 0112404B.D
Acq: 6 Feb 2015 2:59 pm

Tgt Ion: 91 Resp: 19403

Ion	Ratio	Lower	Upper
91	100		
106	39.3	38.5	57.7



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\020615V3\
Data File : 0112405B.D
Acq On : 6 Feb 2015 3:24 pm
Operator :
Sample : 1501124-05
Misc : 1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Feb 09 09:10:26 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

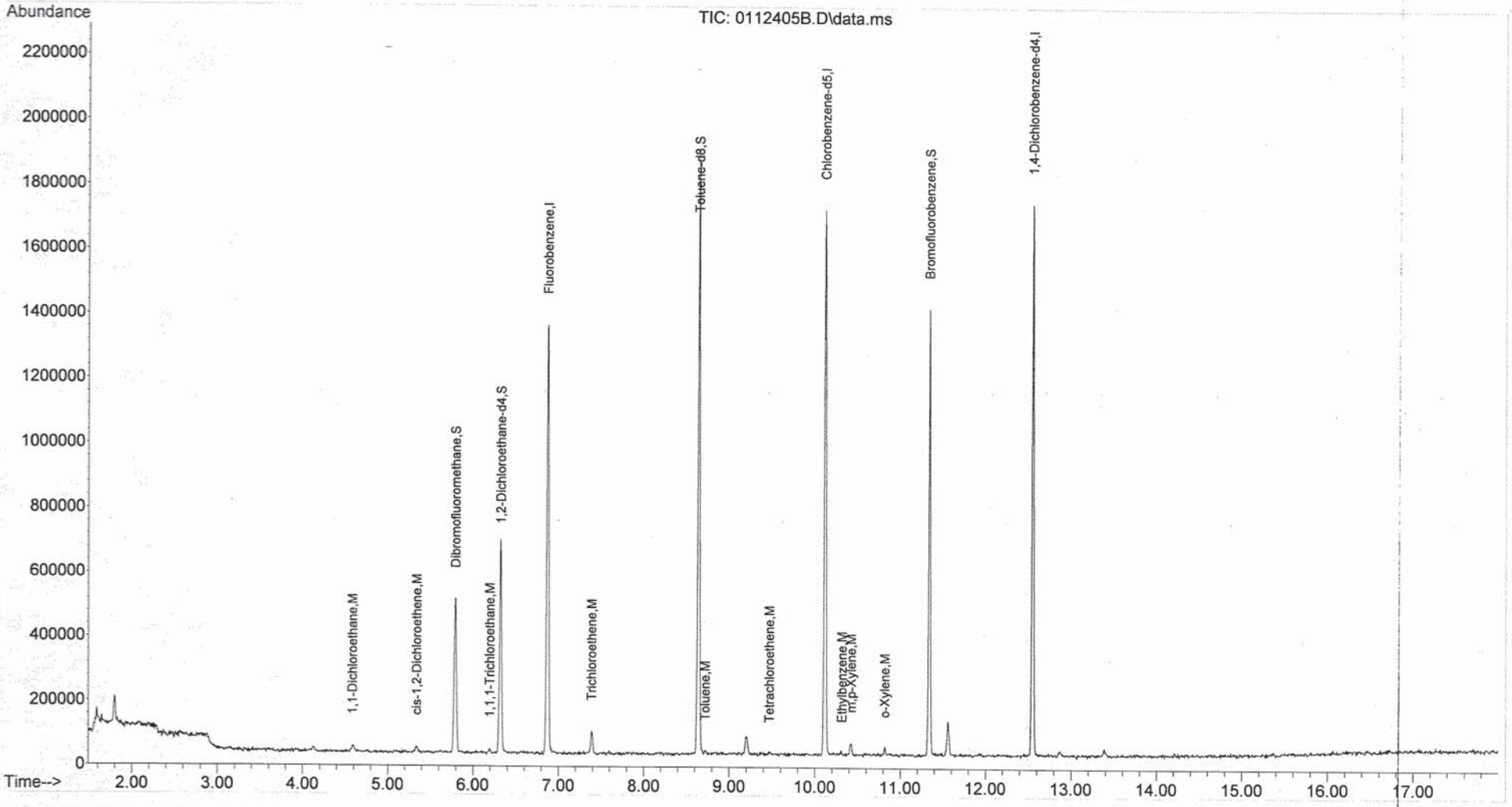
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	6.871	96	980873	30.00	ug/L	0.00
59) Chlorobenzene-d5	10.114	82	436053	30.00	ug/L	0.00
81) 1,4-Dichlorobenzene-d4	12.547	152	364097	30.00	ug/L	# 0.00
System Monitoring Compounds						
37) Dibromofluoromethane	5.795	111	278239	30.89	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 102.97%			
41) 1,2-Dichloroethane-d4	6.324	102	65804	30.15	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 100.50%			
60) Toluene-d8	8.642	98	971051	27.91	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 93.03%			
80) Bromofluorobenzene	11.337	95	371893	28.55	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 95.17%			
Target Compounds						Qvalue
23) 1,1-Dichloroethane	4.584	63	17609	0.9084	ug/L #	87
31) cis-1,2-Dichloroethene	5.338	96	9064	0.9138	ug/L	88
40) 1,1,1-Trichloroethane	6.196	97	6555	0.4541	ug/L	94
48) Trichloroethene	7.389	95	18455	1.9085	ug/L	99
62) Toluene	8.721	92	2229	0.0881	ug/L	80
68) Tetrachloroethene	9.469	166	1480	0.1477	ug/L #	61
73) Ethylbenzene	10.315	91	7825	0.1784	ug/L	95
74) m,p-Xylene	10.424	91	18558	0.5347	ug/L	99
76) o-Xylene	10.820	91	10657m	0.2852	ug/L	

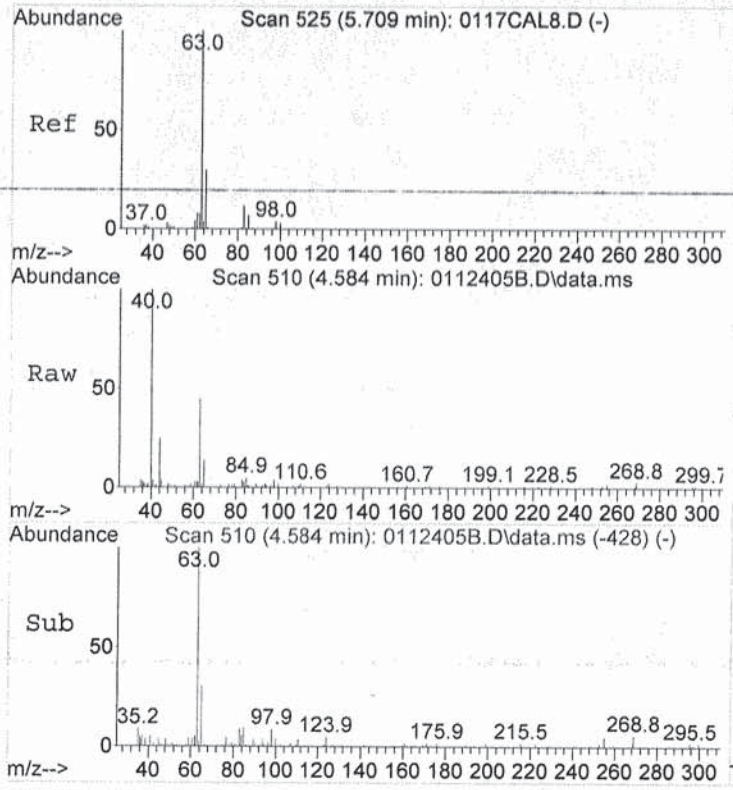
(#) = qualifier out of range (m) = manual integration (+) = signals summed

02/10/15

Data Path : C:\msdchem\1\DATA\020615V3\
Data File : 0112405B.D
Acq On : 6 Feb 2015 3:24 pm
Operator :
Sample : 1501124-05
Misc : 1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Feb 09 09:10:26 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

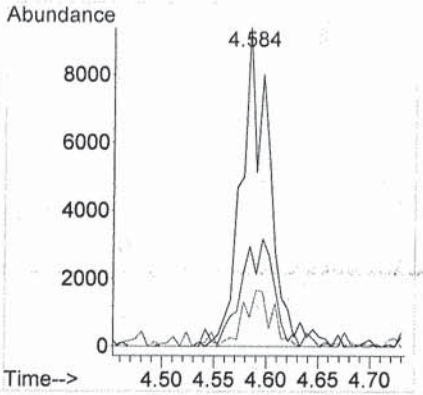


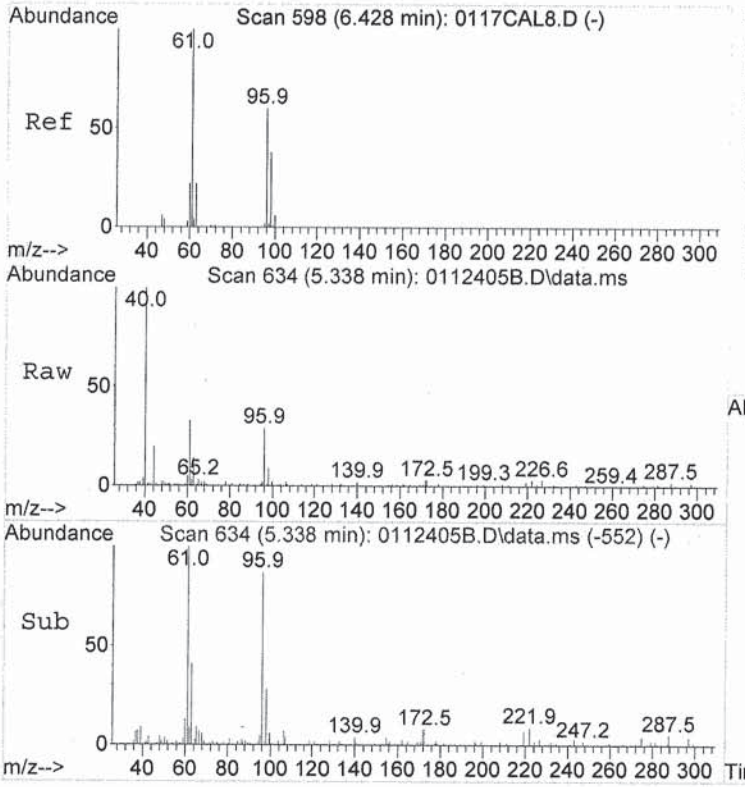


#23
1,1-Dichloroethane
Concen: 0.9084 ug/L
RT: 4.584 min Scan# 510
Delta R.T. 0.000 min
Lab File: 0112405B.D
Acq: 6 Feb 2015 3:24 pm

Tgt Ion: 63 Resp: 17609

Ion	Ratio	Lower	Upper
63	100		
65	38.6	25.3	37.9#
83	17.2	9.7	14.5#

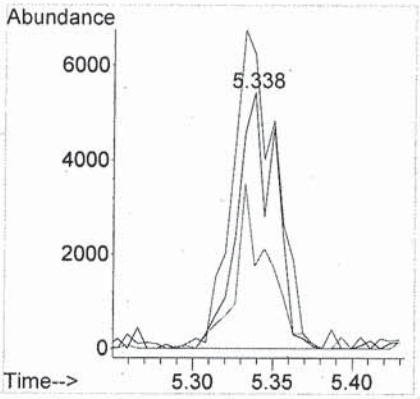


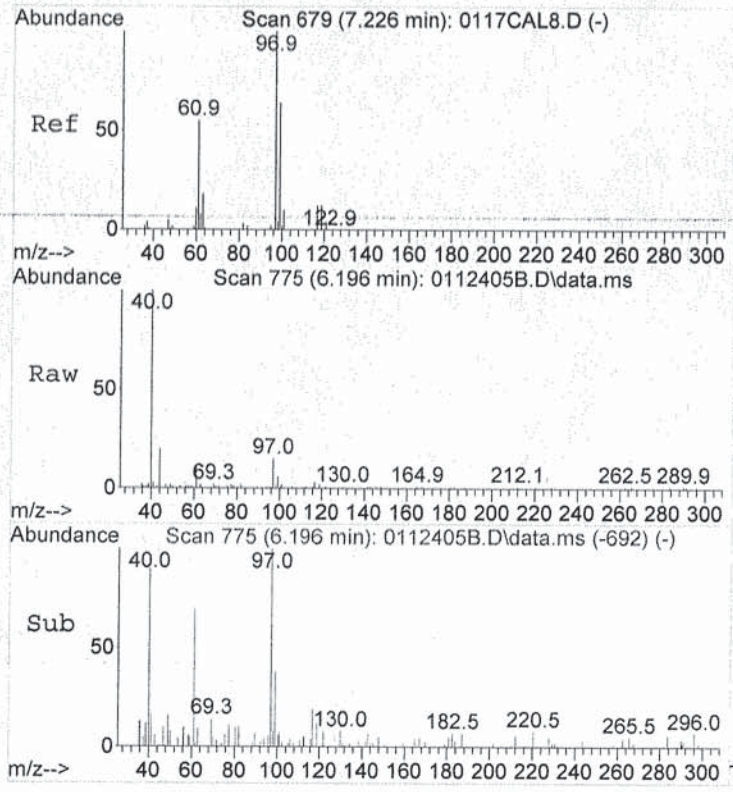


#31
cis-1,2-Dichloroethene
Concen: 0.9138 ug/L
RT: 5.338 min Scan# 634
Delta R.T. 0.000 min
Lab File: 0112405B.D
Acq: 6 Feb 2015 3:24 pm

Tgt Ion: 96 Resp: 9064

Ion	Ratio	Lower	Upper
96	100		
61	140.9	124.4	186.6
98	53.9	52.2	78.2

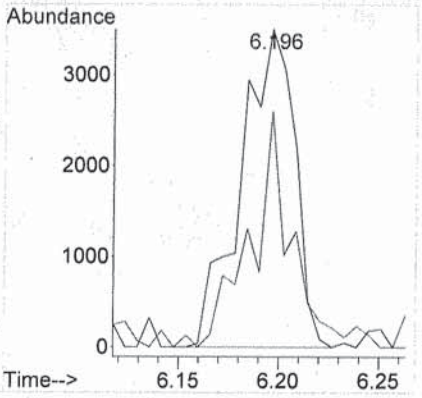


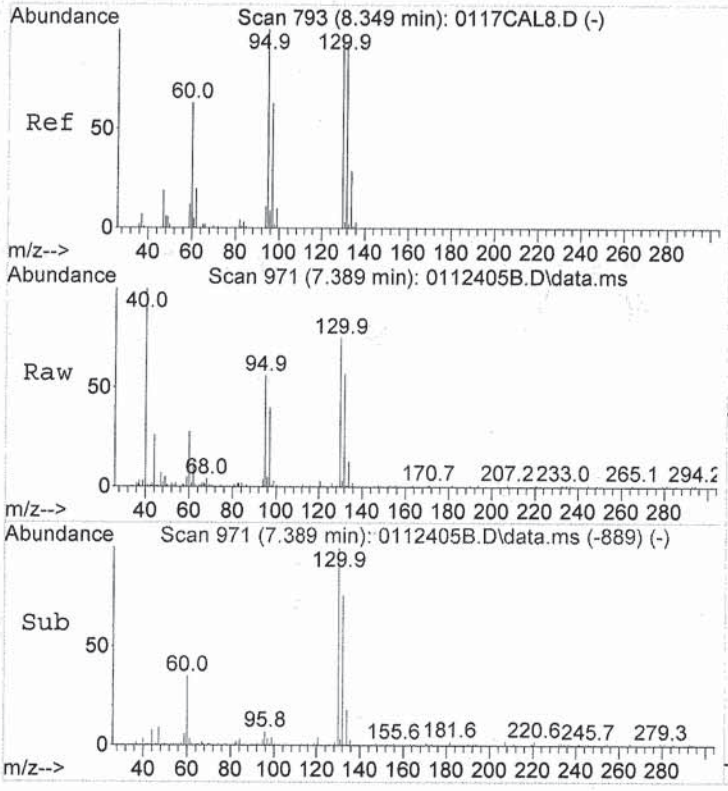


#40
1,1,1-Trichloroethane
Concen: 0.4541 ug/L
RT: 6.196 min Scan# 775
Delta R.T. 0.006 min
Lab File: 0112405B.D
Acq: 6 Feb 2015 3:24 pm

Tgt Ion: 97 Resp: 6555

Ion	Ratio	Lower	Upper
97	100		
61	56.4	41.8	62.8

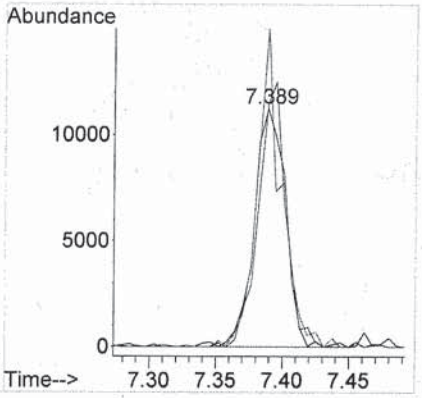


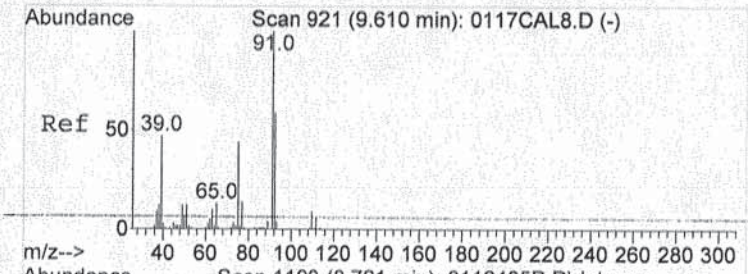


#48
Trichloroethene
Concen: 1.9085 ug/L
RT: 7.389 min Scan# 971
Delta R.T. 0.001 min
Lab File: 0112405B.D
Acq: 6 Feb 2015 3:24 pm

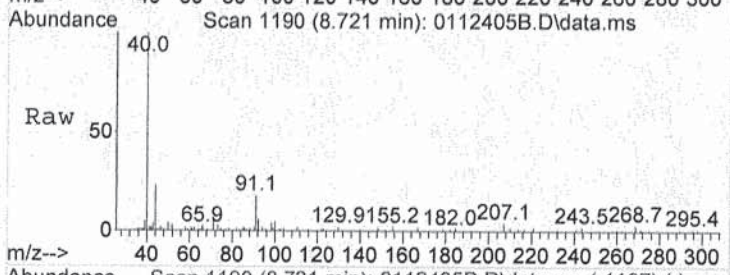
Tgt Ion: 95 Resp: 18455

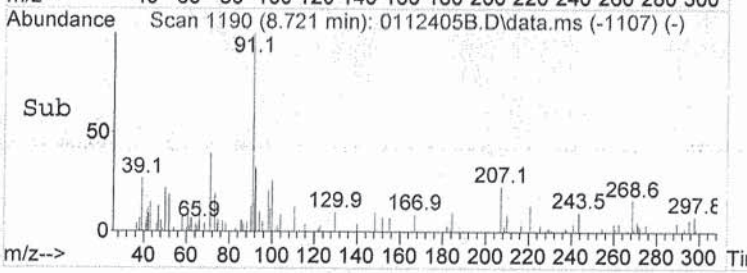
Ion	Ratio	Lower	Upper
95	100		
132	97.0	76.6	114.8
130	104.2	82.5	123.7





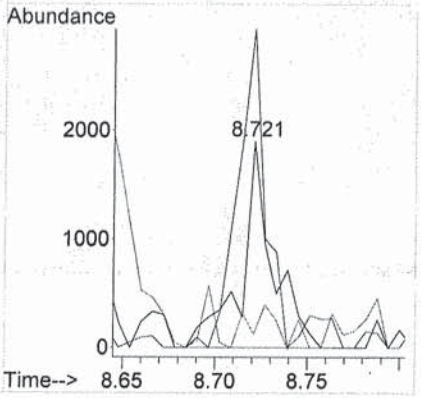
#62
Toluene
Concen: 0.0881 ug/L
RT: 8.721 min Scan# 1190
Delta R.T. 0.006 min
Lab File: 0112405B.D
Acq: 6 Feb 2015 3:24 pm

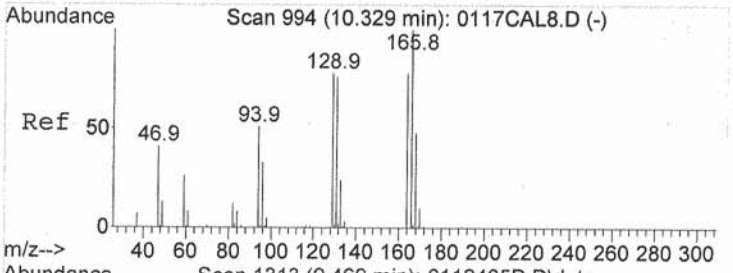




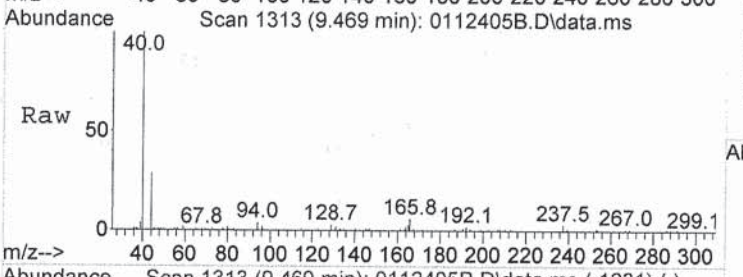
Tgt Ion: 92 Resp: 2229

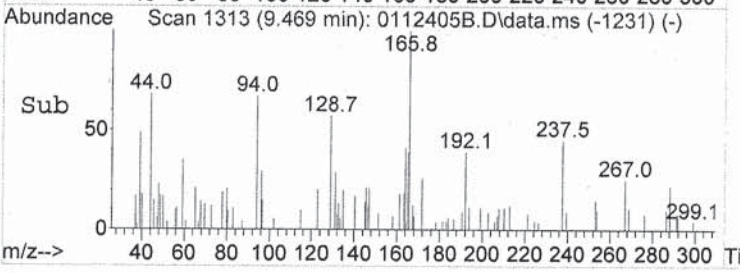
Ion	Ratio	Lower	Upper
92	100		
91	137.2	134.1	201.1
65	22.2	17.0	25.4





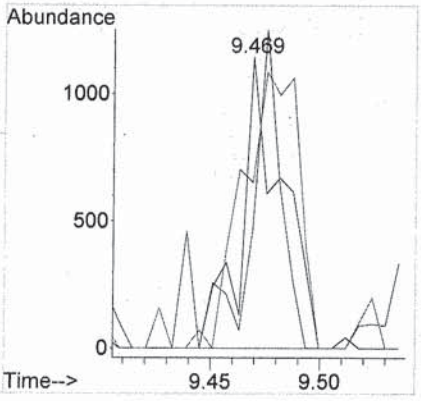
#68
Tetrachloroethene
Concen: 0.1477 ug/L
RT: 9.469 min Scan# 1313
Delta R.T. 0.000 min
Lab File: 0112405B.D
Acq: 6 Feb 2015 3:24 pm

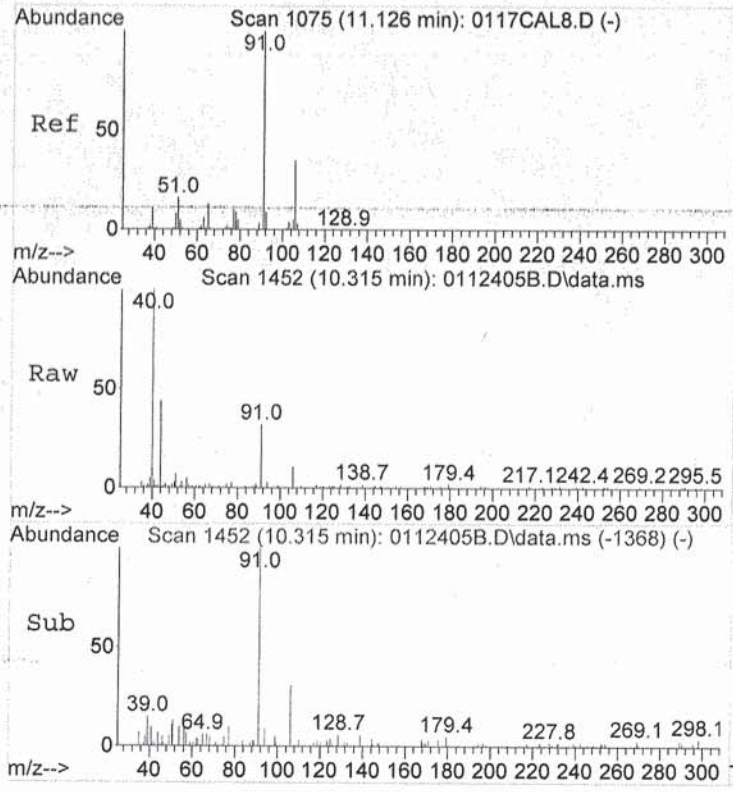




Tgt Ion:166 Resp: 1480

Ion	Ratio	Lower	Upper
166	100		
164	66.5	62.6	94.0
129	131.8	61.2	91.8#

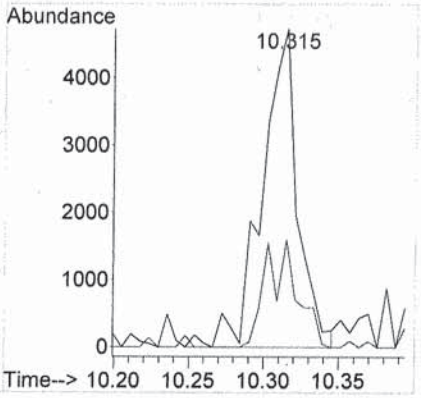


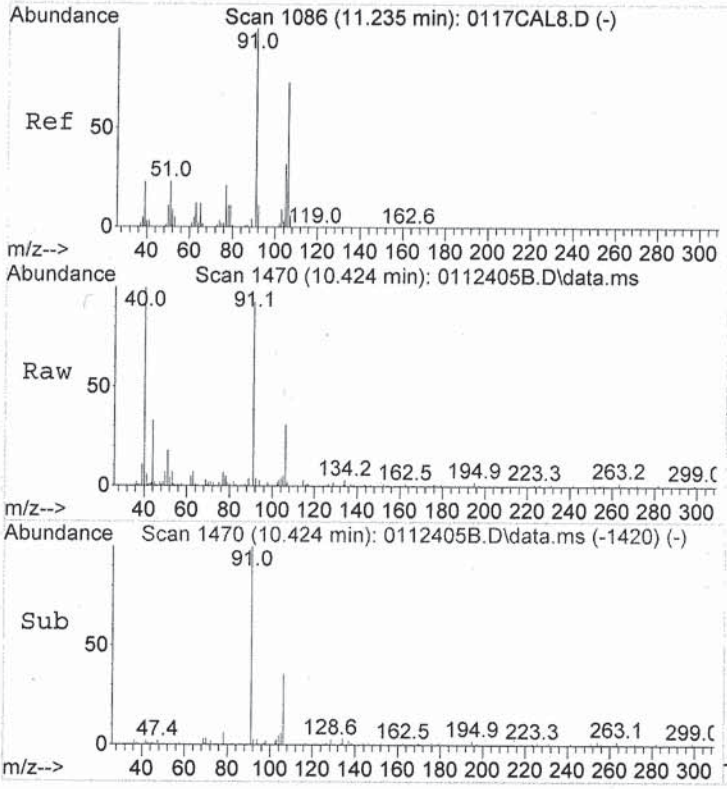


#73
Ethylbenzene
Concen: 0.1784 ug/L
RT: 10.315 min Scan# 1452
Delta R.T. 0.013 min
Lab File: 0112405B.D
Acq: 6 Feb 2015 3:24 pm

Tgt Ion: 91 Resp: 7825

Ion	Ratio	Lower	Upper
91	100		
106	29.9	26.2	39.4

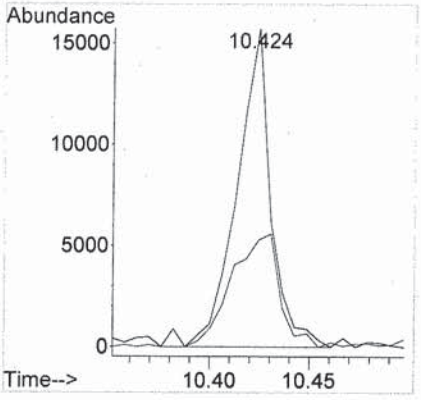




#74
m,p-Xylene
Concen: 0.5347 ug/L
RT: 10.424 min Scan# 1470
Delta R.T. 0.006 min
Lab File: 0112405B.D
Acq: 6 Feb 2015 3:24 pm

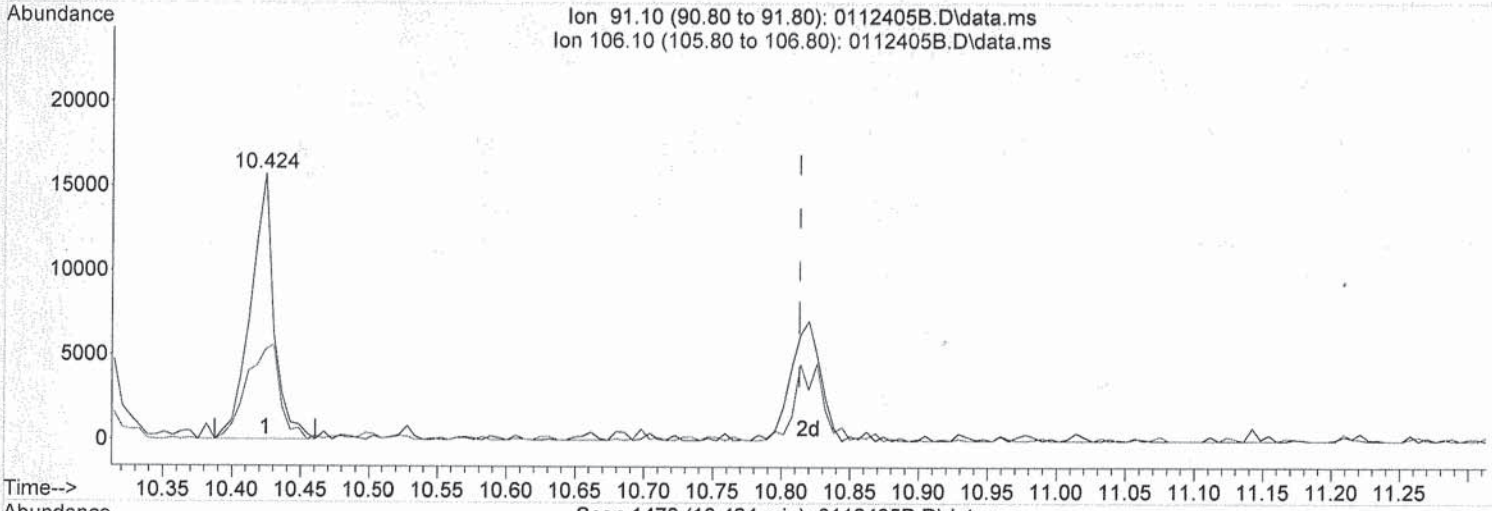
Tgt Ion: 91 Resp: 18558

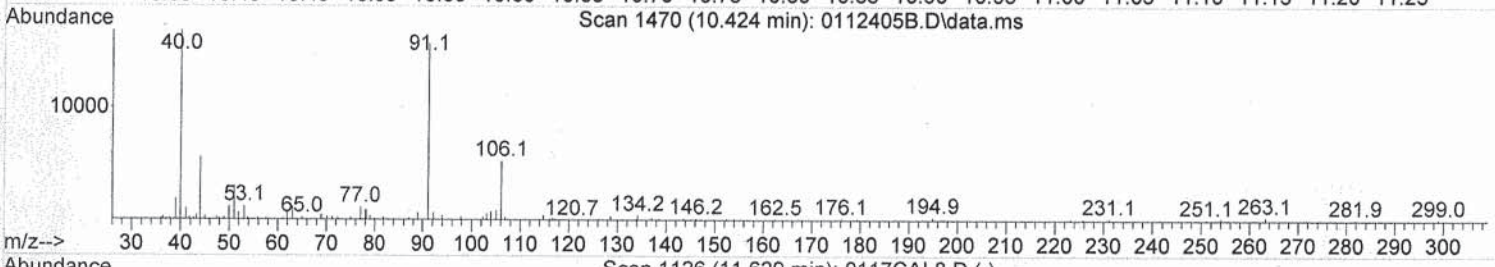
Ion	Ratio	Lower	Upper
91	100		
106	50.9	41.2	61.8

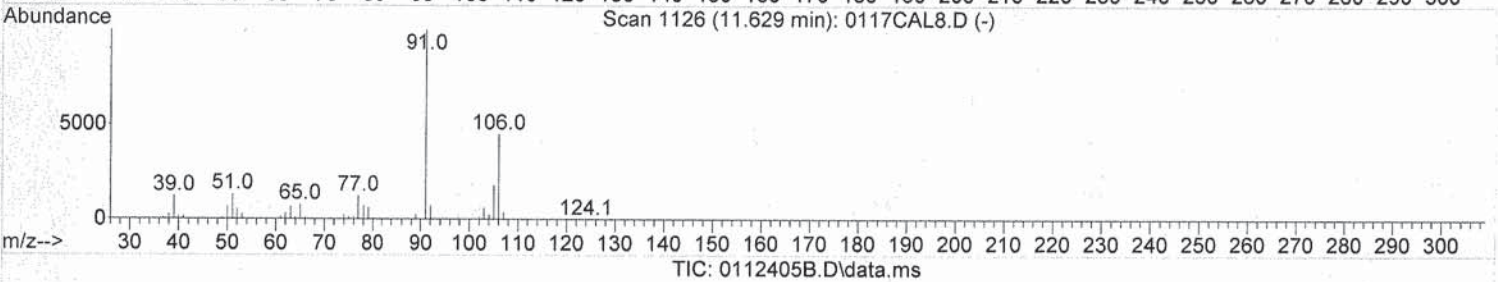


Data Path : C:\msdchem\1\DATA\020615V3\
Data File : 0112405B.D
Acq On : 6 Feb 2015 3:24 pm
Operator :
Sample : 1501124-05
Misc : 1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Feb 09 09:09:17 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration







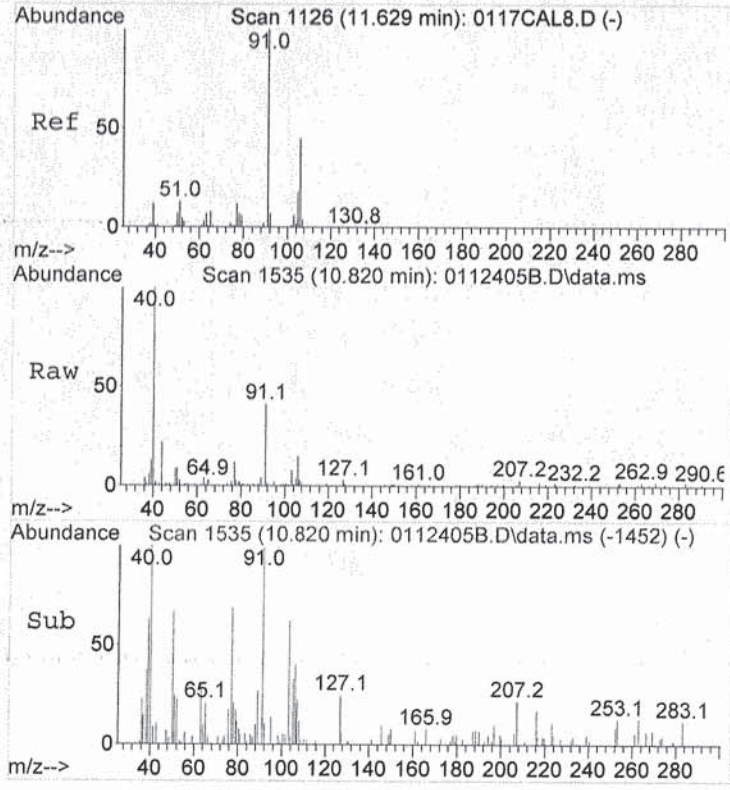
TIC: 0112405B.D\data.ms

(76) o-Xylene (M)

10.424min (-0.389) 0.50 ug/L

response 18558

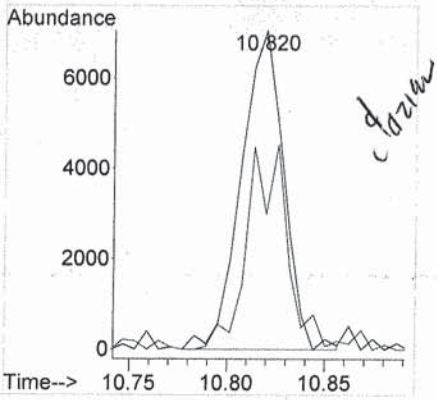
Ion	Exp%	Act%
91.10	100	100
106.10	48.10	50.95
0.00	0.00	0.00
0.00	0.00	0.00



#76
o-Xylene
Concen: 0.2852 ug/L m
RT: 10.820 min Scan# 1535
Delta R.T. 0.007 min
Lab File: 0112405B.D
Acq: 6 Feb 2015 3:24 pm

Tgt Ion: 91 Resp: 10657

Ion	Ratio	Lower	Upper
91	100		
106	88.7	38.5	57.7#



PREPARATION BENCH SHEET

5B06004

Empirical Laboratories, LLC

Printed: 2/10/2015 1:52:11PM

Instrument: VOA3

Matrix: Water **Prepared using: MS - 5030B** **Surrogate used: 14J0018**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID		ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
1501117-04	B	VOC_8260B_REG	02/06/2015	5	5					1	2	;see versions;5X-F/T
1501117-05	B	VOC_8260B_REG	02/06/2015	5	5					1	2	;see versions;5X-F/T
1501124-01	B	VOC_8260B_REG	02/06/2015	5	5					1	2	;;
1501124-02	A	VOC_8260B_REG	02/06/2015	5	5					1	2	Limited volume;Limited volume;TB
1501124-03	B	VOC_8260B_REG	02/06/2015	5	5					1	2	;;
1501124-04	B	VOC_8260B_REG	02/06/2015	5	5					1	2	;;
1501124-05	B	VOC_8260B_REG	02/06/2015	5	5					1	2	;;
1501139-01	B	VOC_8260B_REG_Q5	02/06/2015	5	5					1	2	;QSM5, select version;
1501140-01	A	VOC_8260B_REG_Q5	02/06/2015	5	5					1	2	;QSM5, select version;TB
1501140-02	B	VOC_8260B_REG_Q5	02/06/2015	5	5					1	2	;QSM5, select version;
1502012-01	B	VOC_8260B_REG	02/06/2015	5	5					1	7	Unpres. VOC;;2.5X-T
1502012-02	B	VOC_8260B_REG	02/06/2015	5	5					1	7	Unpres. VOC;;
1502012-03	A	VOC_8260B_REG	02/06/2015	5	5					1	7	Unpres. VOC;;TB
1502026-01	B	VOC_8260B_REG	02/06/2015	5	5					1	7	MS/MSD, Unpres. VOC;Unpres. VOC;2X-LF
1502026-01	B	VOC_8260B_REG_Q5	02/06/2015	5	5					1	7	MS/MSD, Unpres. VOC;BatchQC;Added for BatchQC in: 5B06004
1502026-02	B	VOC_8260B_REG	02/06/2015	5	5					1	7	Unpres. VOC;Unpres. VOC;
1502026-03	A	VOC_8260B_REG	02/06/2015	5	5					1	7	;;TB

PREPARATION BENCH SHEET

5B06004

Empirical Laboratories, LLC

Printed: 2/10/2015 1:52:11PM

Instrument: VOA3

Matrix: Water **Prepared using: MS - 5030B** **Surrogate used: 14J0018**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
5B06004-BLK1		QC	02/06/2015	5	5				1	NA	
5B06004-BS1		QC	02/06/2015	5	5	15B0002		2.5	1	NA	
5B06004-MS1		QC	02/06/2015	5	5	15B0002	15020226-01	5	1	NA	
5B06004-MSD1		QC	02/06/2015	5	5	15B0002	15020226-01	5	1	NA	

Reagents Used:

Standard	Description
14F0692	Anti-foam-GE_AF72
15A0032	ph paper 1-12

Data for RSK 175
Forms

Sample Extraction Data

Prep Method: RSK175-RSK175

Lab Number [Field ID]	Batch	Nominal Initial/Final	Initial [mL]	Final [mL]	Dilution	% Solids	Notes	Date
1501124-03 [48MW2]	5B04002	15.00/15.00	15.0	15.0	1.00			02/04/15
1501124-04 [49MW01]	5B04002	15.00/15.00	15.0	15.0	1.00			02/04/15
1501124-05 [48MW1]	5B04002	15.00/15.00	15.0	15.0	1.00			02/04/15

ANALYSIS DATA SHEET

48MW2

Laboratory: Empirical Laboratories, LLC SDG: 1501124

Client: CB&I Project: Radford AAP

Matrix: Water Laboratory ID: 1501124-03 File ID: 025F2501.D\Report.TXT

Sampled: 01/28/15 12:00 Prepared: 02/04/15 07:09 Analyzed: 02/04/15 16:59

Solids: Preparation: RSK175 Dilution: 1

Batch: 5B04002 Sequence: 5B03704 Calibration: 4335002 Instrument: GL-GCVOA

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane		1.00	2.00	4.00	U
74-84-0	Ethane		1.00	2.00	4.00	U
74-85-1	Ethene		1.00	2.00	4.00	U

Total Target Analytes Reported 3 Project Analytes: 3

ANALYSIS DATA SHEET

49MW01

Laboratory:	Empirical Laboratories, LLC			SDG:	1501124
Client:	CB&I			Project:	Radford AAP
Matrix:	Water	Laboratory ID:	1501124-04	File ID:	026F2601.D\Report.TXT
Sampled:	01/28/15 13:20	Prepared:	02/04/15 07:09	Analyzed:	02/04/15 17:13
Solids:		Preparation:	RSK175	Dilution:	1
Batch:	5B04002	Sequence:	5B03704	Calibration:	4335002
Instrument:	GL-GCVOA				

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane		1.00	2.00	4.00	U
74-84-0	Ethane		1.00	2.00	4.00	U
74-85-1	Ethene		1.00	2.00	4.00	U

Total Target Analytes Reported 3 Project Analytes: 3

ANALYSIS DATA SHEET

48MW1

Laboratory:	Empirical Laboratories, LLC			SDG:	1501124
Client:	CB&I			Project:	Radford AAP
Matrix:	Water	Laboratory ID:	1501124-05	File ID:	027F2701.D\Report.TXT
Sampled:	01/28/15 14:30	Prepared:	02/04/15 07:09	Analyzed:	02/04/15 17:27
Solids:		Preparation:	RSK175	Dilution:	1
Batch:	5B04002	Sequence:	5B03704	Calibration:	4335002
Instrument:	GL-GCVOA				

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane		1.00	2.00	4.00	U
74-84-0	Ethane		1.00	2.00	4.00	U
74-85-1	Ethene		1.00	2.00	4.00	U

Total Target Analytes Reported 3 Project Analytes: 3

LCS / LCS DUPLICATE RECOVERY

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501124
Client:	CB&I	Project:	Radford AAP
Matrix:	Water		
Batch:	5B04002	Laboratory ID:	5B04002-BS1
Preparation:	RSK175	Initial/Final:	15 mL / 15 mL

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	QC LIMITS REC.
Methane	253.4	257.4	102	80 - 120
Ethane	485.3	495.3	102	80 - 120
Ethene	520.6	567.0	109	80 - 120

PREPARATION BATCH SUMMARY

RSK175

Laboratory: Empirical Laboratories, LLC SDG: 1501124

Client: CB&I Project: Radford AAP

Batch: 5B04002 Batch Matrix: Water Preparation: RSK175

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
48MW2	1501124-03	02/04/15 07:09	15.00	15.00
49MW01	1501124-04	02/04/15 07:09	15.00	15.00
48MW1	1501124-05	02/04/15 07:09	15.00	15.00
Blank	5B04002-BLK1	02/04/15 07:09	15.00	15.00
LCS	5B04002-BS1	02/04/15 07:09	15.00	15.00

ANALYSIS DATA SHEET

Blank

Laboratory: Empirical Laboratories, LLC SDG: 1501124

Client: CB&I Project: Radford AAP

Matrix: Laboratory ID: 5B04002-BLK1 File ID: 003F0301.D\Report.TXT

Sampled: Prepared: Analyzed: 02/04/15 12:01

Solids: Preparation: RSK175 Dilution:

Batch: 5B04002 Sequence: 5B03704 Calibration: 4335002 Instrument: GL-GCVOA

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane		1.00	2.00	4.00	U
74-84-0	Ethane		1.00	2.00	4.00	U
74-85-1	Ethene		1.00	2.00	4.00	U

Total Target Analytes Reported: 3

ANALYSIS DATA SHEET

LCS

Laboratory: Empirical Laboratories, LLC SDG: 1501124

Client: CB&I Project: Radford AAP

Matrix: Laboratory ID: 5B04002-BS1 File ID: 004F0401.D\Report.TXT

Sampled: Prepared: Analyzed: 02/04/15 12:14

Solids: Preparation: RSK175 Dilution:

Batch: 5B04002 Sequence: 5B03704 Calibration: 4335002 Instrument: GL-GCVOA

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane	**257.4**	1.00	2.00	4.00	
74-84-0	Ethane	**495.3**	1.00	2.00	4.00	
74-85-1	Ethene	**567.0**	1.00	2.00	4.00	

Total Target Analytes Reported: 3

INITIAL CALIBRATION STANDARDS

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501124
Client:	CB&I	Project:	Radford AAP
Sequence:	4L33506	Instrument:	GL-GCVOA
Calibration:	4335002		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
14K0664	MEE CAL1 STD@0.005 ON COLUMN	4L33506-CAL1	002F0201.D\Report.TXT	11/30/14 22:55
14K0665	MEE CAL2 STD@0.01 ON COLUMN	4L33506-CAL2	003F0301.D\Report.TXT	11/30/14 23:09
14K0666	MEE CAL3 STD@0.02 ON COLUMN	4L33506-CAL3	004F0401.D\Report.TXT	11/30/14 23:22
14K0667	MEE CAL4 STD@0.1 ON COLUMN	4L33506-CAL4	005F0501.D\Report.TXT	11/30/14 23:36
14K0668	MEE CAL5 STD@0.2 ON COLUMN	4L33506-CAL5	006F0601.D\Report.TXT	11/30/14 23:49
14K0669	MEE CAL6 STD@1.0 ON COLUMN	4L33506-CAL6	007F0701.D\Report.TXT	12/01/14 00:03
14K0670	MEE CAL7 STD@2.0 ON COLUMN	4L33506-CAL7	008F0801.D\Report.TXT	12/01/14 00:17
14K0671	MEE CAL8 STD@4.0 ON COLUMN	4L33506-CAL8	009F0901.D\Report.TXT	12/01/14 00:30

ANALYSIS SEQUENCE SUMMARY

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501124
Client:	CB&I	Project:	Radford AAP
Sequence:	4L33506	Instrument:	GL-GCVOA
Calibration:	4335002		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	4L33506-CAL1	002F0201.D\Report.TXT	11/30/14 22:55
Cal Standard	4L33506-CAL2	003F0301.D\Report.TXT	11/30/14 23:09
Cal Standard	4L33506-CAL3	004F0401.D\Report.TXT	11/30/14 23:22
Cal Standard	4L33506-CAL4	005F0501.D\Report.TXT	11/30/14 23:36
Cal Standard	4L33506-CAL5	006F0601.D\Report.TXT	11/30/14 23:49
Cal Standard	4L33506-CAL6	007F0701.D\Report.TXT	12/01/14 00:03
Cal Standard	4L33506-CAL7	008F0801.D\Report.TXT	12/01/14 00:17
Cal Standard	4L33506-CAL8	009F0901.D\Report.TXT	12/01/14 00:30
Initial Cal Check	4L33506-ICV1	010F1001.D\Report.TXT	12/01/14 00:44

ANALYSIS SEQUENCE SUMMARY

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501124
Client:	CB&I	Project:	Radford AAP
Sequence:	5B03704	Instrument:	GL-GCVOA
Calibration:	4335002		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	5B03704-CCV1	002F0201.D\Report.TXT	02/04/15 11:47
Blank	5B04002-BLK1	003F0301.D\Report.TXT	02/04/15 12:01
LCS	5B04002-BS1	004F0401.D\Report.TXT	02/04/15 12:14
Calibration Check	5B03704-CCV2	017F1701.D\Report.TXT	02/04/15 15:11
48MW2	1501124-03	025F2501.D\Report.TXT	02/04/15 16:59
49MW01	1501124-04	026F2601.D\Report.TXT	02/04/15 17:13
48MW1	1501124-05	027F2701.D\Report.TXT	02/04/15 17:27
Calibration Check	5B03704-CCV3	029F2901.D\Report.TXT	02/04/15 17:54

INITIAL CALIBRATION DATA

RSK175

Laboratory: Empirical Laboratories, LLC
SDG: 1501124
Client: CB&I
Project: Radford AAP
Calibration: 4335002
Instrument: GL-GCVOA
Matrix: Water
Calibration Dates: 11/30/14 22:55 12/1/14 0:30

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	DE*1000	RF	DE*1000	RF	DE*1000	RF	DE*1000	RF	DE*1000	RF	DE*1000	RF
Methane	0.005	~~820080.2~~	0.01	700057.9	0.02	520560	0.1	462402	0.2	447276.5	1	422586
Ethane	0.005	636984.8	0.01	567037.7	0.02	535110	0.1	583987	0.2	578530	1	582713
Ethene	0.005	526654.2	0.01	472928	0.02	494285.5	0.1	583965	0.2	596060	1	586832
Acetylene (outside certification)	0.005		0.01		0.02		0.1		0.2		1	

INITIAL CALIBRATION DATA (Continued)

RSK175

Laboratory: Empirical Laboratories, LLC
SDG: 1501124
Client: CB&I
Project: Radford AAP
Calibration: 4335002
Instrument: GL-GCVOA
Matrix: Water
Calibration Dates: 11/30/14 22:55 12/1/14 0:30

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	DE*1000	RF	DE*1000	RF	DE*1000	RF	DE*1000	RF	DE*1000	RF	DE*1000	RF
Methane	2	354606.5	4	302757.5								
Ethane	2	495891.5	4	423852.5								
Ethene	2	499674	4	424570								
Acetylene (outside certification)	2		4									

INITIAL CALIBRATION DATA (Continued)

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501124	
Client:	CB&I	Project:	Radford AAP	
Calibration:	4335002	Instrument:	GL-GCVOA	
Matrix:	Water	Calibration Dates:	11/30/14 22:55	12/1/14 0:30

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Methane	458606.6	27.96427	0.8102857	0.9003783		0.9991859	0.99	
Ethane	550513.3	11.88305	6.731875	0.2221914			20	
Ethene	523121.1	11.80749	5.9265	0.2719457			20	
Acetylene (outside certification)							20	

Per current DoD QSM requirements, effective 03/17/2014, Empirical has updated the linear calibration coefficient requirements to reflect a limit of 0.990 for "r2" rather than the previously reported limit of 0.995 for "r". The change in assessment criteria is consistent with regulatory requirements.

INITIAL CALIBRATION CHECK

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501124
Client:	CB&I	Project:	Radford AAP
Instrument ID:	GL-GCVOA	Calibration:	4335002
Lab File ID:	010F1001.D\Report.TXT	Calibration Date:	11/30/14 10:55
Sequence:	4L33506	Injection Date:	12/01/14
Lab Sample ID:	4L33506-ICV1	Injection Time:	00:44

		CONC. (DE*1000)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Methane	Q	1.000	0.9059	458607	363070		-9.4	20
Ethane	A	1.000	0.9203	550513	506658		-7.966	20
Ethene	A	1.000	0.9708	523121	507854		-2.918	20

CONTINUING CALIBRATION CHECK

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501124
Client:	CB&I	Project:	Radford AAP
Instrument ID:	GL-GCVOA	Calibration:	4335002
Lab File ID:	002F0201.D\Report.TXT	Calibration Date:	11/30/14 10:55
Sequence:	5B03704	Injection Date:	02/04/15
Lab Sample ID:	5B03704-CCV1	Injection Time:	11:47

		CONC. (DE*1000)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	Q	1.000	1.068	458607	421863		6.8	20
Ethane	A	1.000	1.078	550513	593307		7.773	20
Ethene	A	1.000	1.197	523121	625981		19.66	20

CONTINUING CALIBRATION CHECK

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501124
Client:	CB&I	Project:	Radford AAP
Instrument ID:	GL-GCVOA	Calibration:	4335002
Lab File ID:	017F1701.D\Report.TXT	Calibration Date:	11/30/14 10:55
Sequence:	5B03704	Injection Date:	02/04/15
Lab Sample ID:	5B03704-CCV2	Injection Time:	15:11

		CONC. (DE*1000)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	Q	1.000	0.9911	458607	394075		-0.9	20
Ethane	A	1.000	1.010	550513	555950		0.9876	20
Ethene	A	1.000	1.085	523121	567743		8.53	20

CONTINUING CALIBRATION CHECK

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501124
Client:	CB&I	Project:	Radford AAP
Instrument ID:	GL-GCVOA	Calibration:	4335002
Lab File ID:	029F2901.D\Report.TXT	Calibration Date:	11/30/14 10:55
Sequence:	5B03704	Injection Date:	02/04/15
Lab Sample ID:	5B03704-CCV3	Injection Time:	17:54

		CONC. (DE*1000)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	Q	1.000	0.9546	458607	380852		-4.5	20
Ethane	A	1.000	0.9680	550513	532920		-3.196	20
Ethene	A	1.000	0.9807	523121	513049		-1.925	20

HOLDING TIME SUMMARY

RSK175

Laboratory: Empirical Laboratories, LLC SDG: 1501124

Client: CB&I Project: Radford AAP

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
48MW2	01/28/15 12:00	01/29/15 09:45	02/04/15 07:09	N/A	14.00	02/04/15 16:59	7.25	14.00	
49MW01	01/28/15 13:20	01/29/15 09:45	02/04/15 07:09	N/A	14.00	02/04/15 17:13	7.20	14.00	
48MW1	01/28/15 14:30	01/29/15 09:45	02/04/15 07:09	N/A	14.00	02/04/15 17:27	7.16	14.00	

Data for RSK 175
Supporting Raw Data / Logs

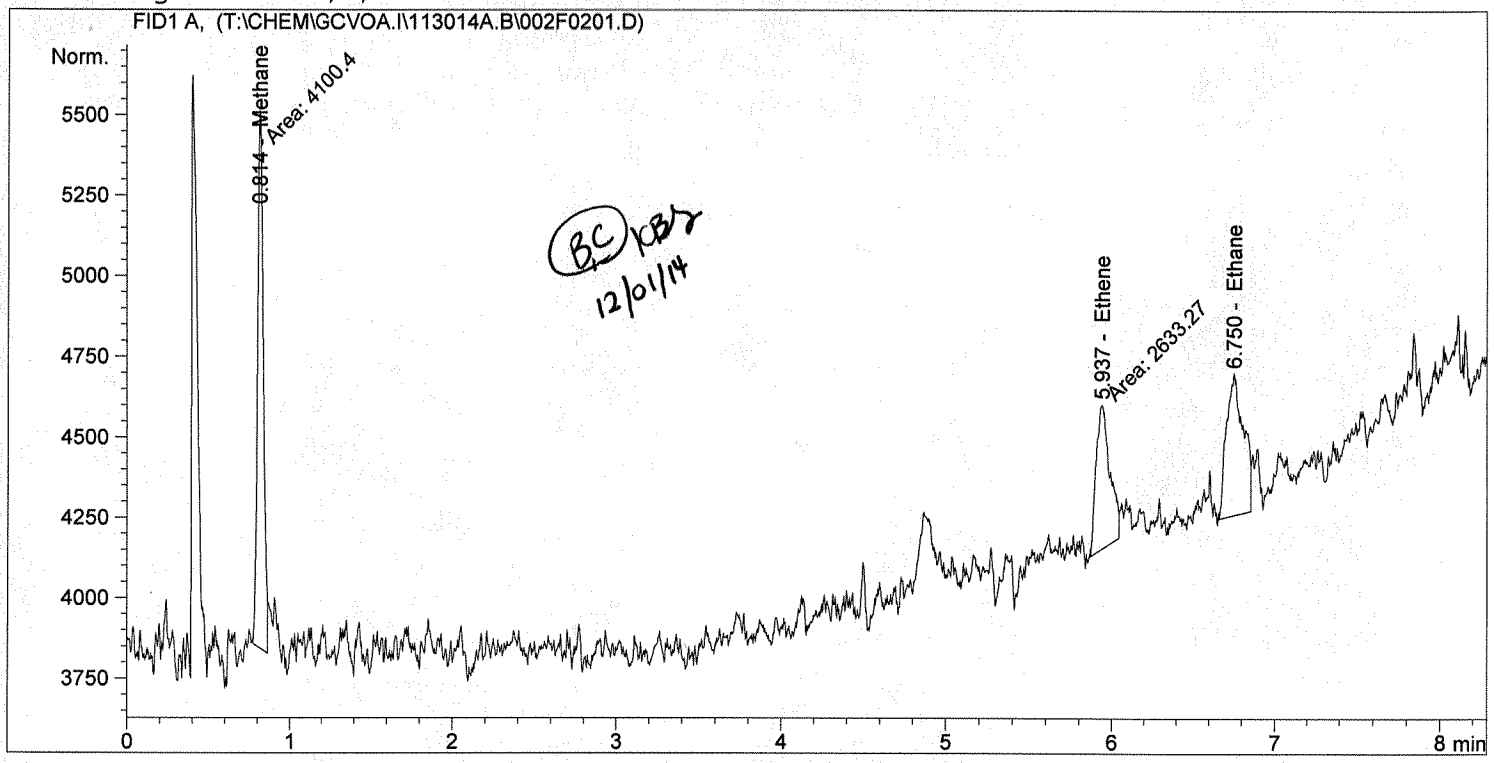
Partial Sequence: C:\HPCHEM\1\SEQUENCE\113014A.S \GCMOA\FID\MEE

PG 834

Sel	Run	Location	Method	Datafile	SeqTable	Calib:RF:RT	Sample Name
No	1	Vial 1	MEE-FAST	001F0101		F:01:01	Int Blk
No	2	Vial 2	MEE-FAST	002F0201		F:02:01	SEQ-CAL1 ID#14K0664
No	3	Vial 3	MEE-FAST	003F0301		F:03:01	SEQ-CAL2 665
No	4	Vial 4	MEE-FAST	004F0401		F:04:01	SEQ-CAL3 666
No	5	Vial 5	MEE-FAST	005F0501		F:05:01	SEQ-CAL4 667
No	6	Vial 6	MEE-FAST	006F0601		F:06:01	SEQ-CAL5 668
No	7	Vial 7	MEE-FAST	007F0701		F:07:01	SEQ-CAL6 669
No	8	Vial 8	MEE-FAST	008F0801		F:08:01	SEQ-CAL7 670
No	9	Vial 9	MEE-FAST	009F0901		F:09:01	SEQ-CAL8 671
No	10	Vial 10	MEE-FAST	010F1001		F:10:01	SEQ-ICV1 672

Data File T:\CHEM\GCVOA.I\113014A.B\002F0201.D
Sample Name: SEQ-CAL1

```
==========================================================================
Acq. Operator    :                                  Seq. Line :   2
Acq. Instrument  : GCVOA                             Location : Vial 2
Injection Date   : 11/30/2014 10:55:40 PM                Inj :   1
                                                  Inj Volume : Manually
Acq. Method      : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed     : 9/8/2011 1:56:36 PM by RDW
Analysis Method  : T:\CHEM\GCVOA.I\112614.B\113014MEE.M
Last changed     : 12/1/2014 12:02:47 PM
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      12/1/2014 11:57:38 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs
```

12/02/14

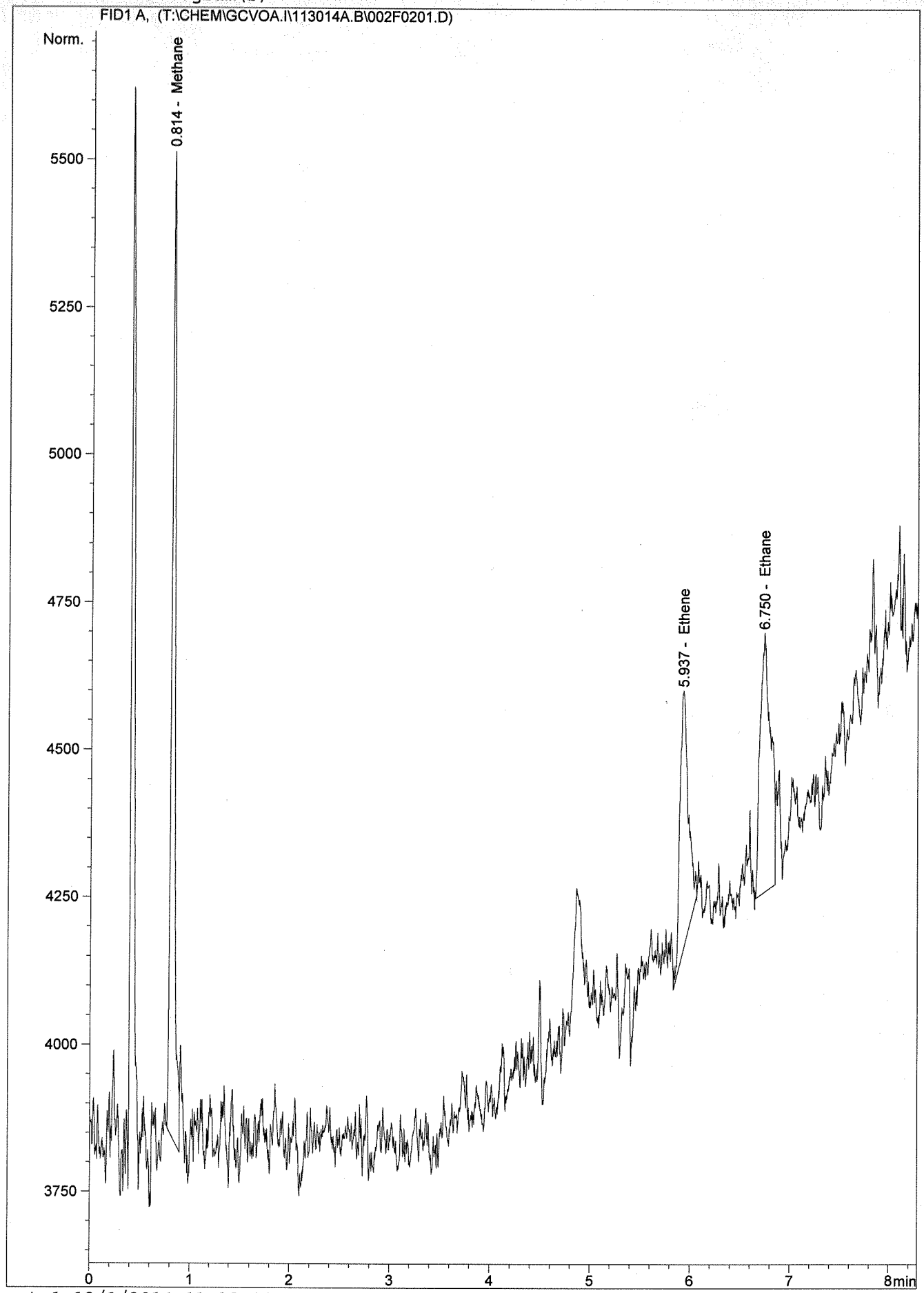
Signal 1: FID1 A,

RetTime [min]	Type	Area counts*s	Amt/Area	Amount [ug/L]	Grp	Name
0.814	MF +	4100.40137	0.00000	0.00000-		Methane
5.937	MF +	2633.27100	1.91160e-6	5.03377e-3		Ethene
6.750	BV +	3184.92358	1.81649e-6	5.78537e-3		Ethane
Totals :				1.08191e-2		

3 Warnings or Errors :

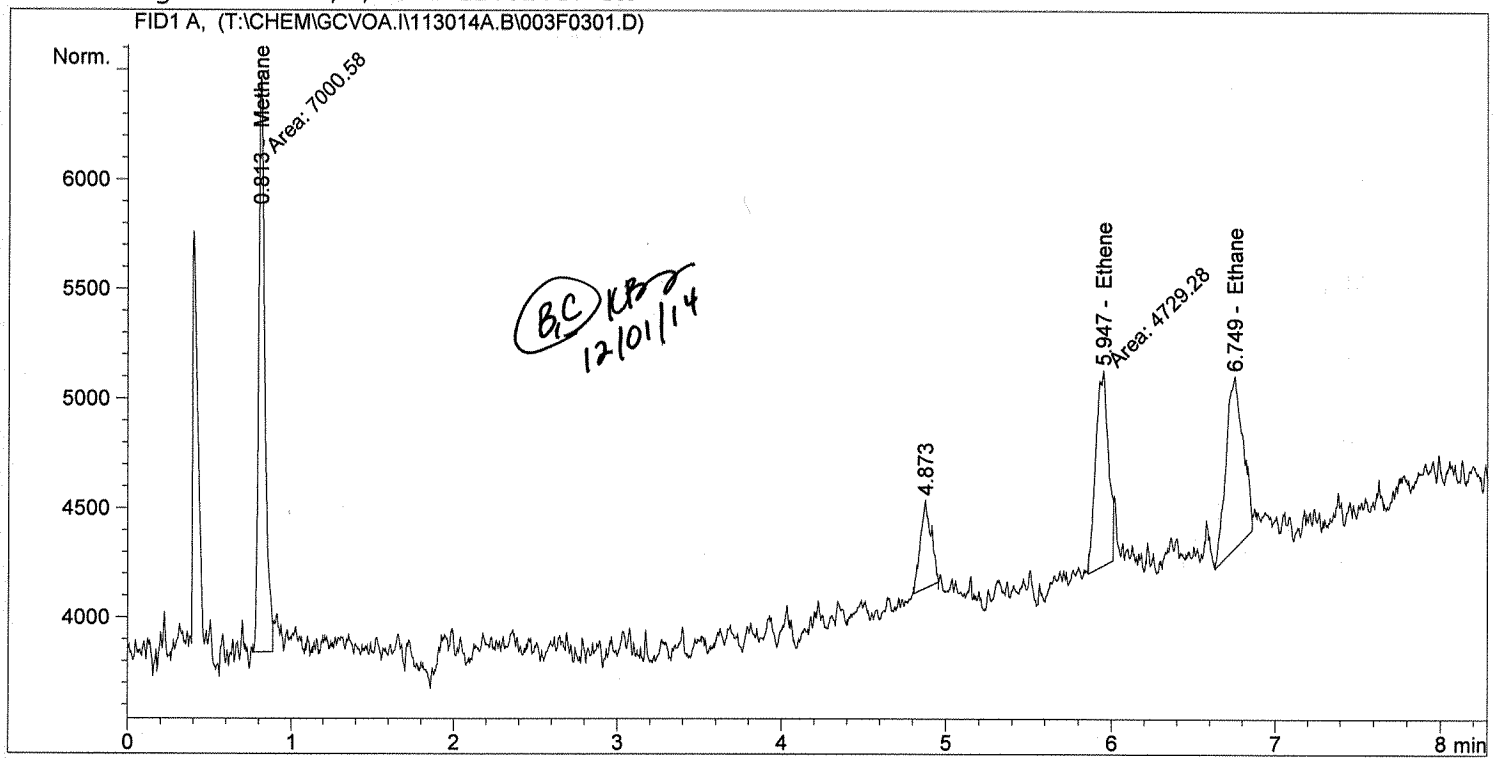
Warning : Calibration warnings (see calibration table listing)

Current Chromatogram(s)



Data File T:\CHEM\GCVOA.I\113014A.B\003F0301.D
Sample Name: SEQ-CAL2

Acq. Operator	:	Seq. Line	: 3
Acq. Instrument	: GCVOA	Location	: Vial 3
Injection Date	: 11/30/2014 11:09:15 PM	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\HPCHEM\1\METHODS\MEE-FAST.M		
Last changed	: 9/8/2011 1:56:36 PM by RDW		
Analysis Method	: T:\CHEM\GCVOA.I\112614.B\113014MEE.M		
Last changed	: 12/1/2014 12:02:47 PM		



BC KB 12/01/14

External Standard Report

Sorted By	:	Signal
Calib. Data Modified	:	12/1/2014 11:57:38 AM
Multiplier:	:	1.0000
Dilution:	:	1.0000

Do not use Multiplier & Dilution Factor with ISTDs

12/02/14

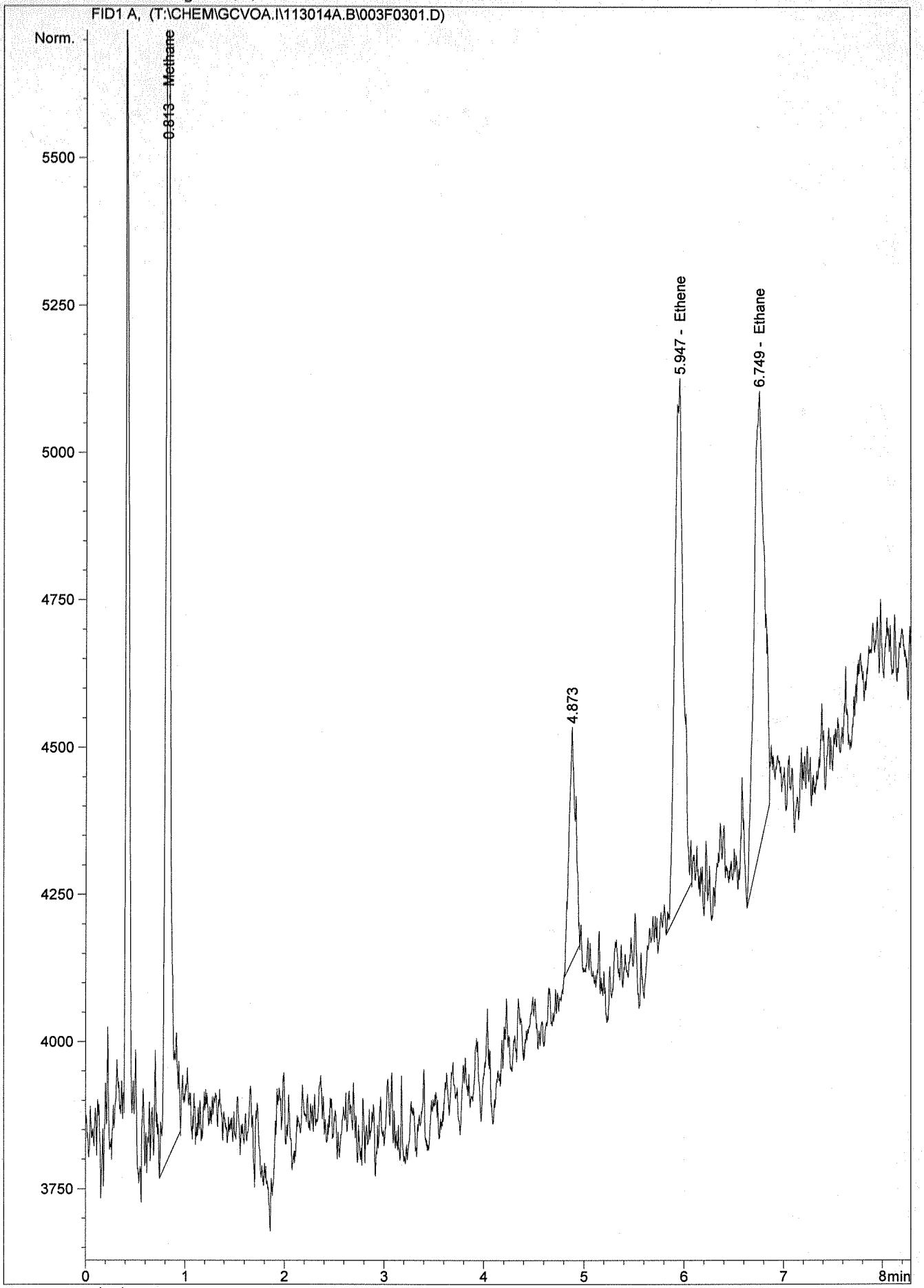
Signal 1: FID1 A,

RetTime [min]	Type	Area counts*s	Amt/Area	Amount [ug/L]	Grp	Name
0.813	MF +	7000.57910	2.24622e-7	1.57249e-3	-	Methane
5.947	MF +	4729.28027	1.91160e-6	9.04051e-3		Ethene
6.749	BV +	5670.37695	1.81649e-6	1.03002e-2		Ethane
Totals :				2.09132e-2		

2 Warnings or Errors :

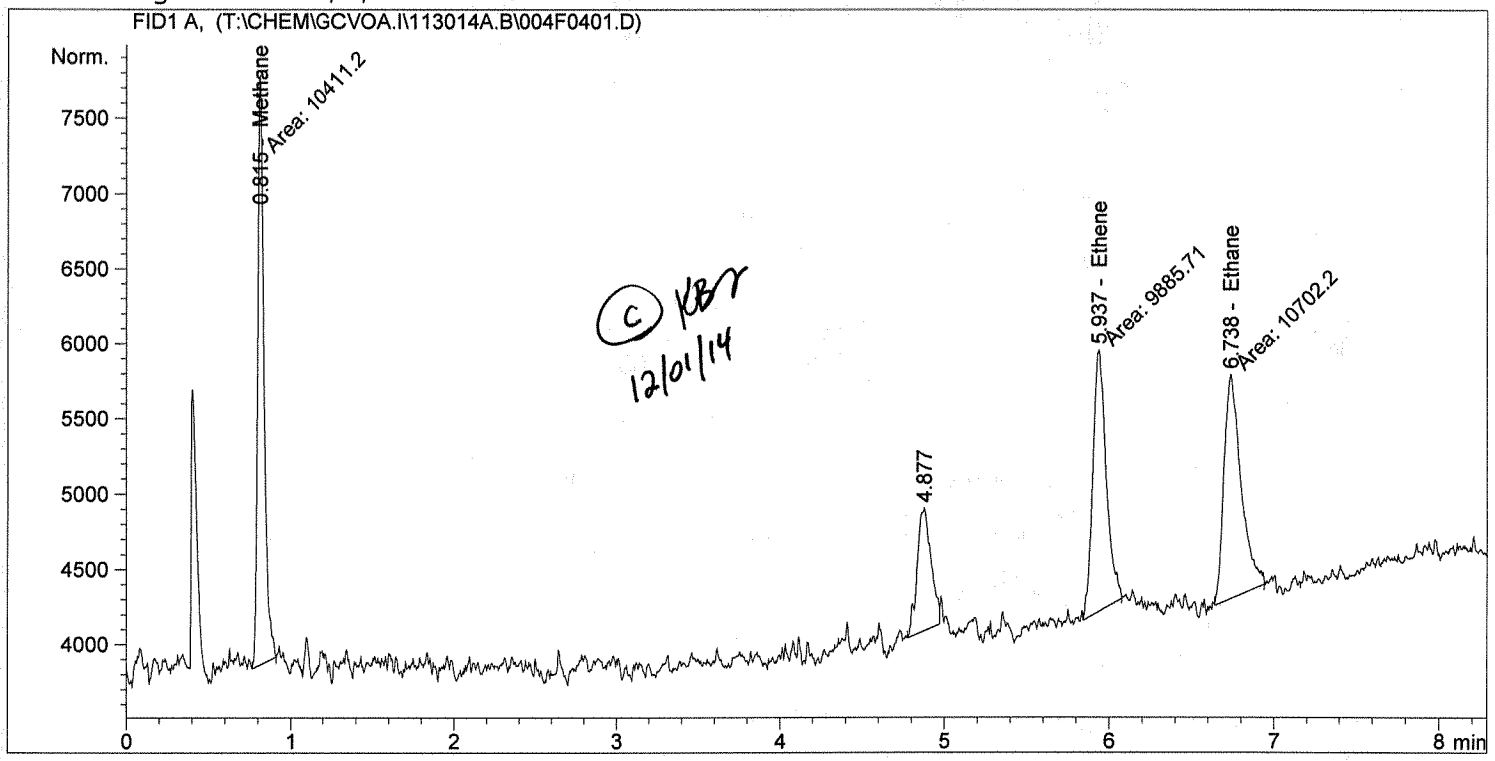
Warning : Calibration warnings (see calibration table listing)

Current Chromatogram(s)



Data File T:\CHEM\GCVOA.I\113014A.B\004F0401.D
Sample Name: SEQ-CAL3

```
==========================================================================
Acq. Operator    :                                  Seq. Line :   4
Acq. Instrument  : GCVOA                             Location : Vial 4
Injection Date   : 11/30/2014 11:22:49 PM                Inj :   1
                                                   Inj Volume : Manually
Acq. Method      : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed     : 9/8/2011 1:56:36 PM by RDW
Analysis Method  : T:\CHEM\GCVOA.I\112614.B\113014MEE.M
Last changed     : 12/1/2014 12:02:47 PM
```



KBr 12/01/14

```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      12/1/2014 11:57:38 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                 [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.815 MM   +  1.04112e4  9.29520e-7 9.67743e-3-    Methane
  5.937 MM   +  9885.70996 1.91160e-6 1.88976e-2     Ethene
  6.738 MM   +  1.07022e4  1.81649e-6 1.94404e-2     Ethane

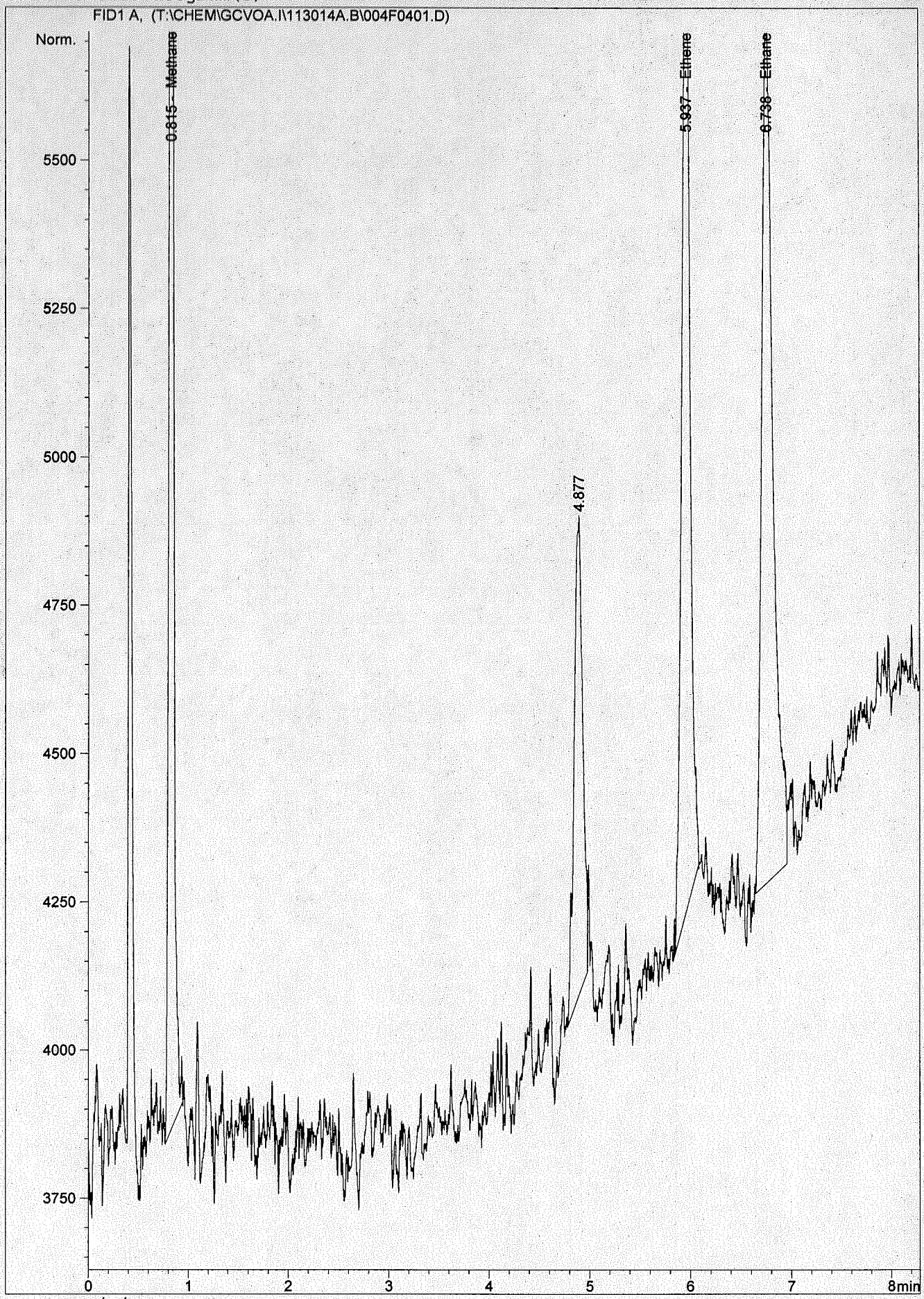
Totals :                               4.80154e-2


2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
```

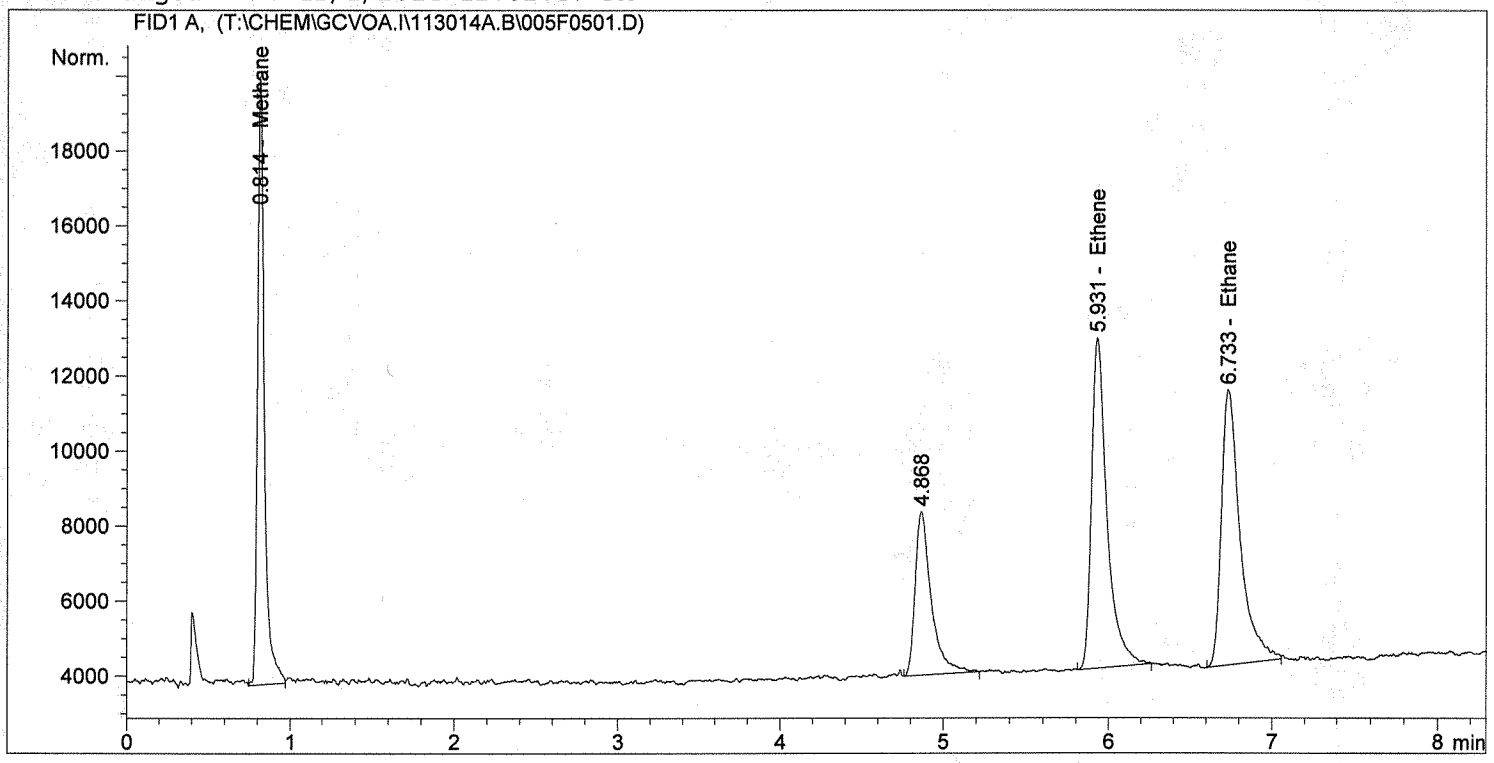
12/02/14

Current Chromatogram(s)



Data File T:\CHEM\GCVOA.I\113014A.B\005F0501.D
Sample Name: SEQ-CAL4

Acq. Operator	:	Seq. Line	: 5
Acq. Instrument	: GCVOA	Location	: Vial 5
Injection Date	: 11/30/2014 11:36:22 PM	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\HPCHEM\1\METHODS\MEE-FAST.M		
Last changed	: 9/8/2011 1:56:36 PM by RDW		
Analysis Method	: T:\CHEM\GCVOA.I\112614.B\113014MEE.M		
Last changed	: 12/1/2014 12:02:47 PM		



External Standard Report

Sorted By : Signal
Calib. Data Modified : 12/1/2014 11:57:38 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

KB 12/01/14

Signal 1: FID1 A,

RetTime [min]	Type	Area counts*s	Amt/Area	Amount [ug/L]	Grp	Name
0.814	BV +	4.62402e4	2.06309e-6	9.53976e-2		Methane
5.931	BB +	5.83965e4	1.91160e-6	1.11631e-1		Ethene
6.733	BV +	5.83987e4	1.81649e-6	1.06080e-1		Ethane
Totals :				3.13109e-1		

12/02/14

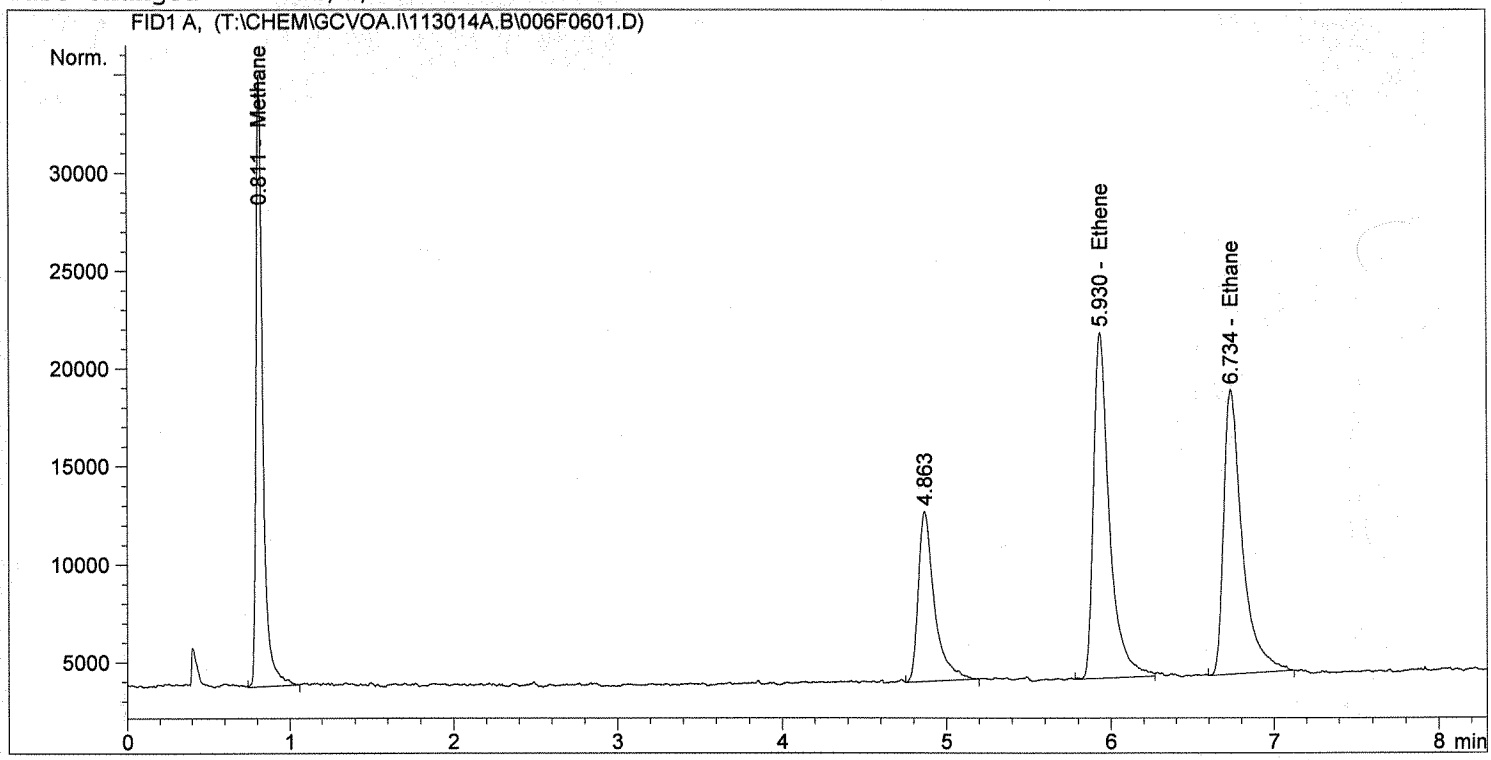
1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

Data File T:\CHEM\GCVOA.I\113014A.B\006F0601.D
Sample Name: SEQ-CAL5

==========

Acq. Operator : Seq. Line : 6
Acq. Instrument : GCVOA Location : Vial 6
Injection Date : 11/30/2014 11:49:56 PM Inj : 1
Inj Volume : Manually
Acq. Method : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed : 9/8/2011 1:56:36 PM by RDW
Analysis Method : T:\CHEM\GCVOA.I\112614.B\113014MEE.M
Last changed : 12/1/2014 12:02:47 PM



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External Standard Report

==========

Sorted By : Signal
Calib. Data Modified : 12/1/2014 11:57:38 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

KPP 12/01/14

Signal 1: FID1 A,

RetTime [min]	Type		Area counts*s	Amt/Area	Amount [ug/L]	Grp	Name
0.811	BB	+	8.94553e4	2.23834e-6	2.00231e-1		Methane
5.930	BV	+	1.19212e5	1.91160e-6	2.27886e-1		Ethene
6.734	BB	+	1.15706e5	1.81649e-6	2.10179e-1		Ethane
Totals :					6.38296e-1		

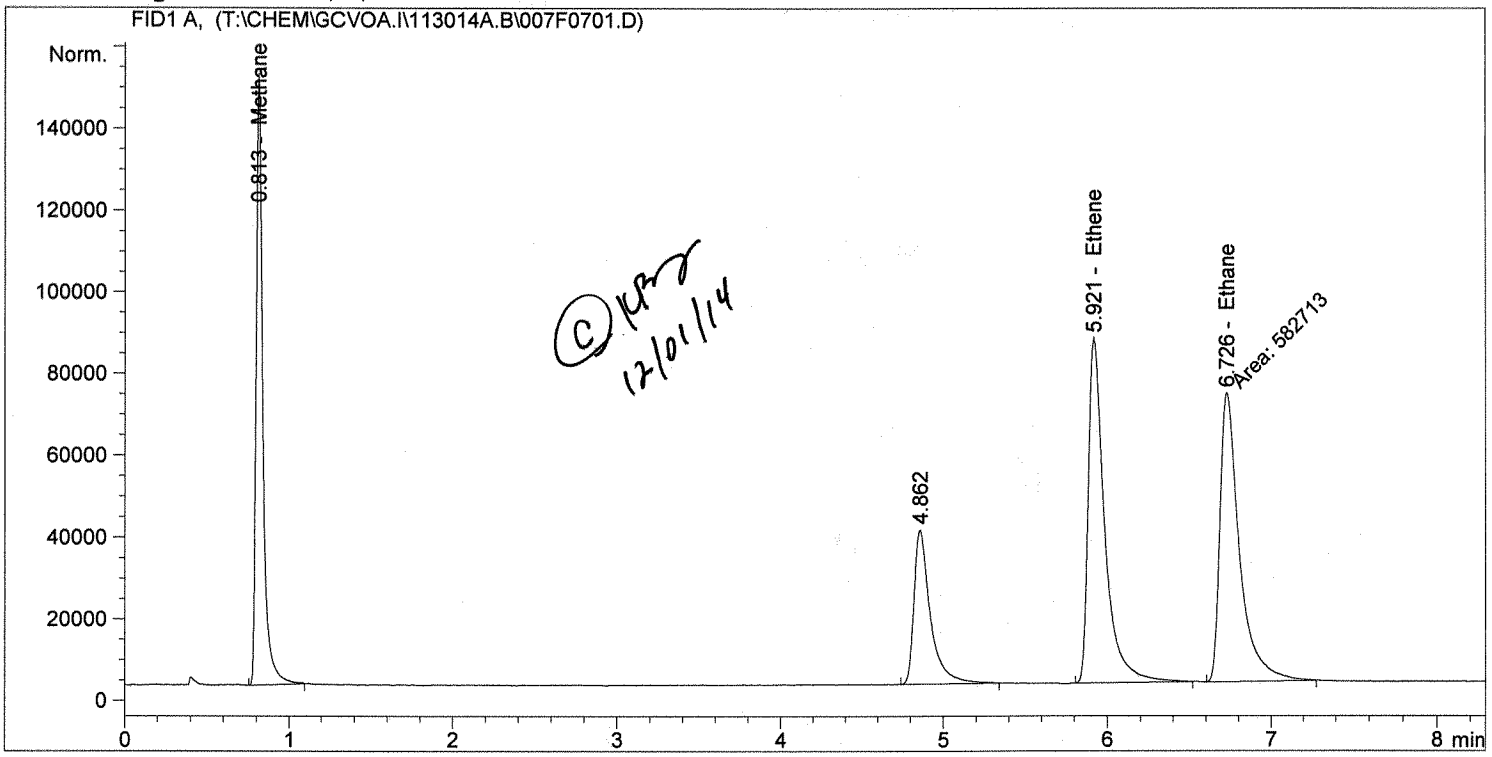
12/02/14

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

Data File T:\CHEM\GCVOA.I\113014A.B\007F0701.D
Sample Name: SEQ-CAL6

Acq. Operator	:	Seq. Line	: 7
Acq. Instrument	: GCVOA	Location	: Vial 7
Injection Date	: 12/1/2014 12:03:31 AM	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\HPCHEM\1\METHODS\MEE-FAST.M		
Last changed	: 9/8/2011 1:56:36 PM by RDW		
Analysis Method	: T:\CHEM\GCVOA.I\112614.B\113014MEE.M		
Last changed	: 12/1/2014 12:02:47 PM		



12/01/14

External Standard Report

Sorted By : Signal
Calib. Data Modified : 12/1/2014 11:57:38 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

12/02/14

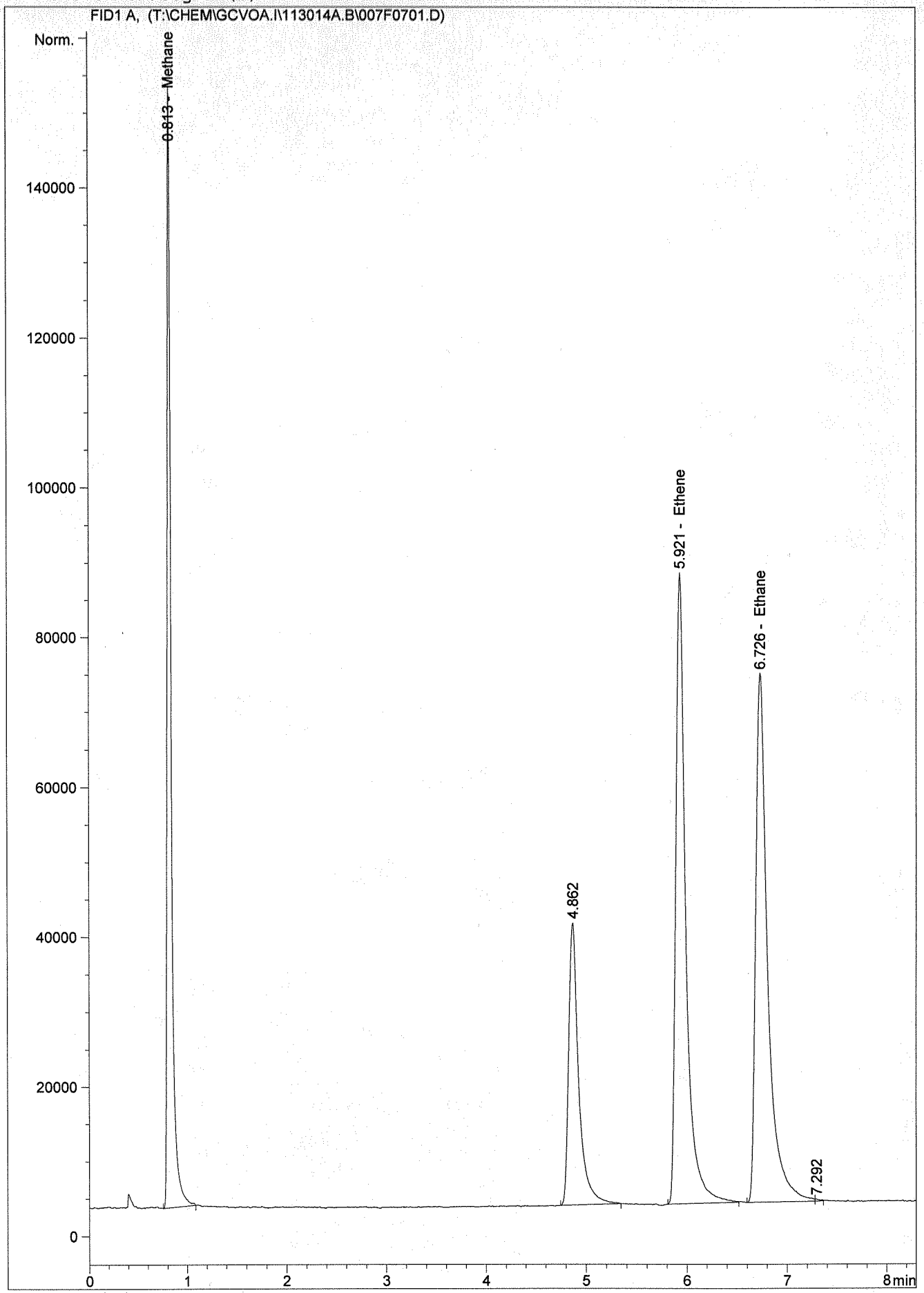
Signal 1: FID1 A,

RetTime [min]	Type	Area counts*s	Amt/Area	Amount [ug/L]	Grp	Name
0.813	BB +	4.22586e5	2.53322e-6	1.07050		Methane
5.921	BV +	5.86832e5	1.91160e-6	1.12179		Ethene
6.726	MM +	5.82713e5	1.81649e-6	1.05849		Ethane
Totals :				3.25079		

1 Warnings or Errors :

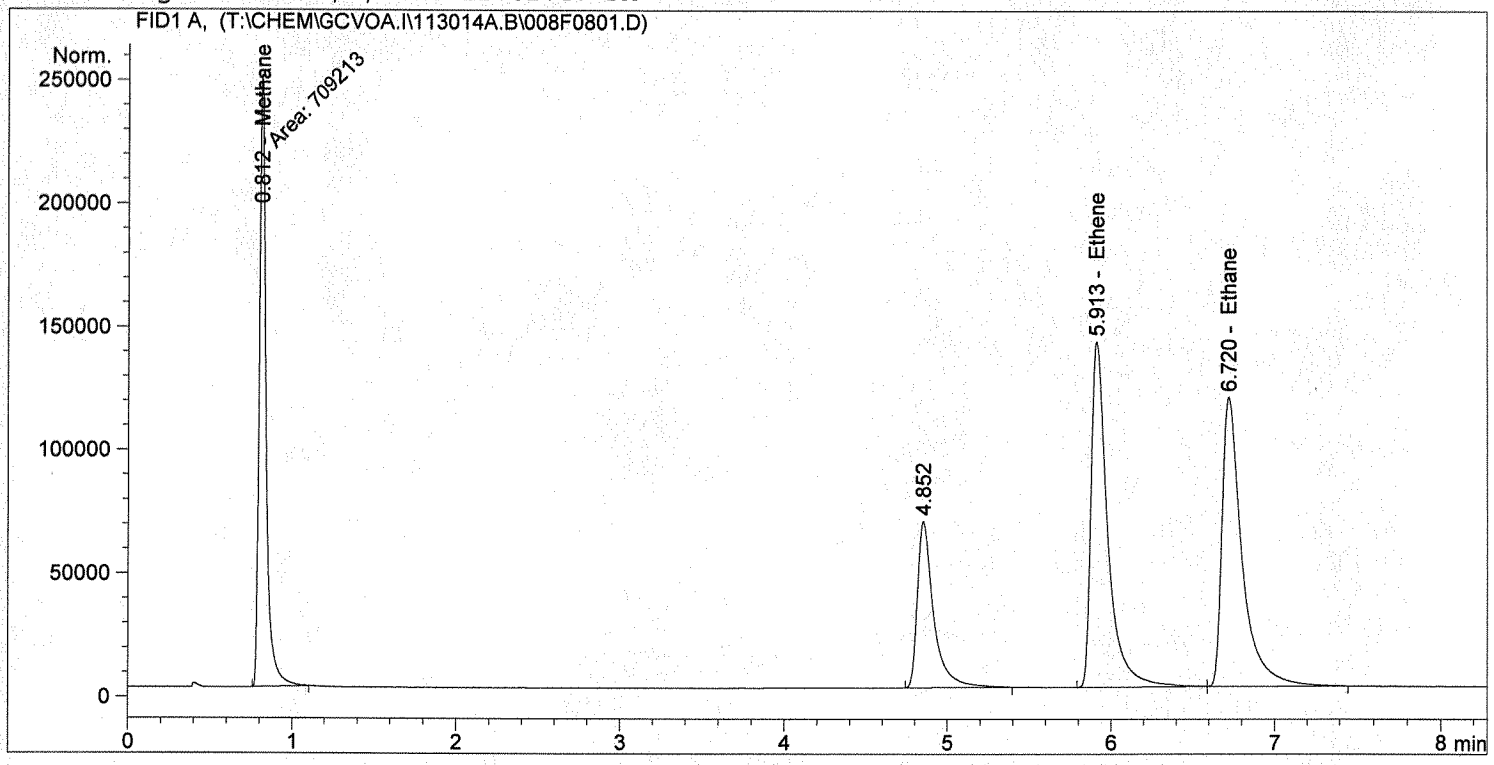
Warning : Calibration warnings (see calibration table listing)

Current Chromatogram(s)



Data File T:\CHEM\GCVOA.I\113014A.B\008F0801.D
Sample Name: SEQ-CAL7

```
================================================================================
Acq. Operator   :                                    Seq. Line :   8
Acq. Instrument : GCVOA                               Location : Vial 8
Injection Date  : 12/1/2014 12:17:05 AM                    Inj :   1
                                                    Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 9/8/2011 1:56:36 PM by RDW
Analysis Method : T:\CHEM\GCVOA.I\112614.B\113014MEE.M
Last changed    : 12/1/2014 12:02:47 PM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      12/1/2014 11:57:38 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs
```

12/01/14

```
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           counts*s                [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.812 MM   +  7.09213e5  2.73291e-6    1.93822     Methane
  5.913 BB   +  9.99348e5  1.91160e-6    1.91036     Ethene
  6.720 BB   +  9.91783e5  1.81649e-6    1.80156     Ethane

Totals :                                 5.65014

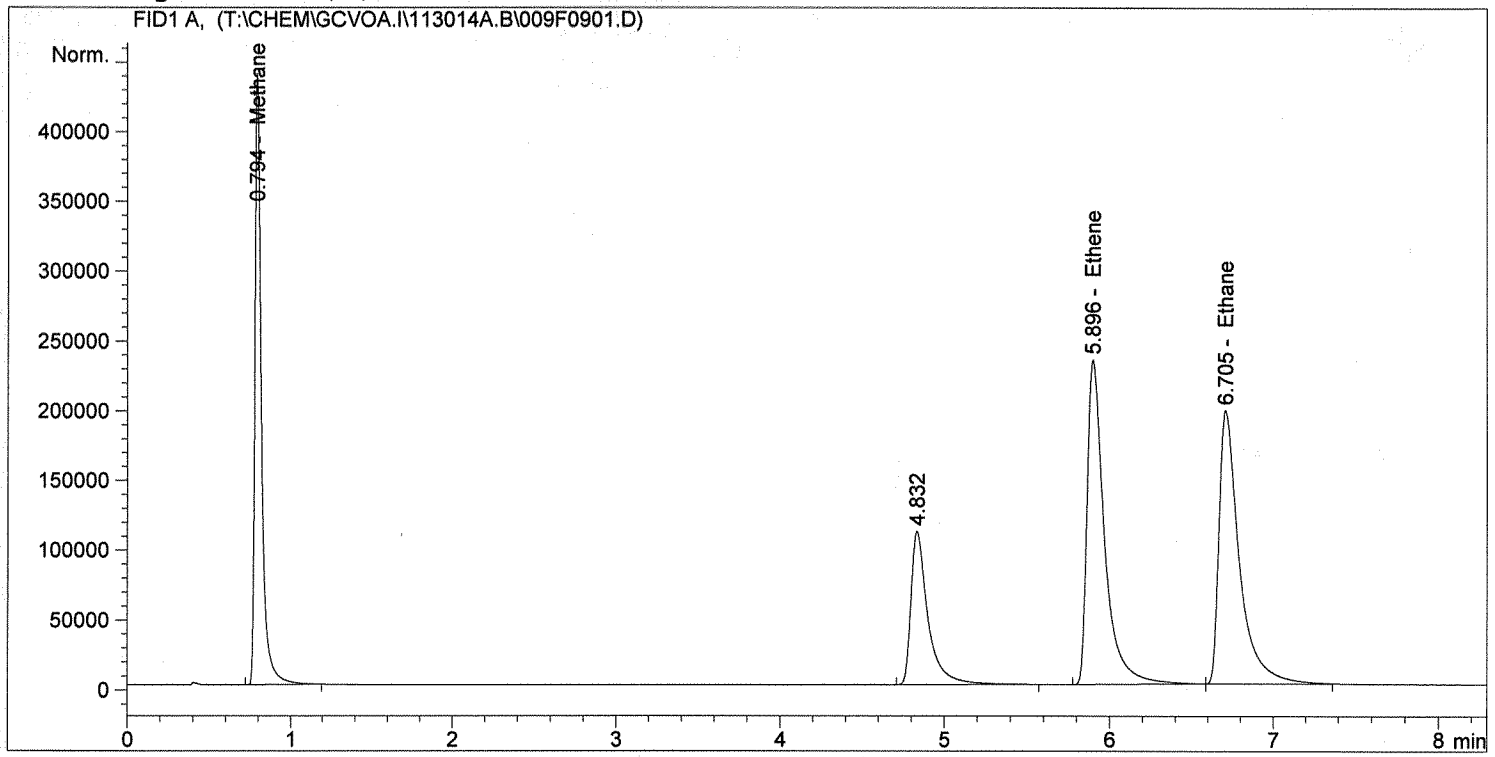

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
```

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Data File T:\CHEM\GCVOA.I\113014A.B\009F0901.D
Sample Name: SEQ-CAL8

```
==========================================================================
Acq. Operator    :                                  Seq. Line :    9
Acq. Instrument : GCVOA                              Location : Vial 9
Injection Date  : 12/1/2014 12:30:39 AM                  Inj :    1
                                                  Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 9/8/2011 1:56:36 PM by RDW
Analysis Method : T:\CHEM\GCVOA.I\112614.B\113014MEE.M
Last changed    : 12/1/2014 12:02:47 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      12/1/2014 11:57:38 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area     Amount    Grp   Name
 [min]           counts*s                 [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.794 BBA +   1.21103e6  3.31721e-6    4.01722+   Methane
  5.896 BB  +   1.69828e6  1.91160e-6    3.24645    Ethene
  6.705 BV  +   1.69541e6  1.81649e-6    3.07969    Ethane

Totals :                                 10.34336


2 Warnings or Errors :

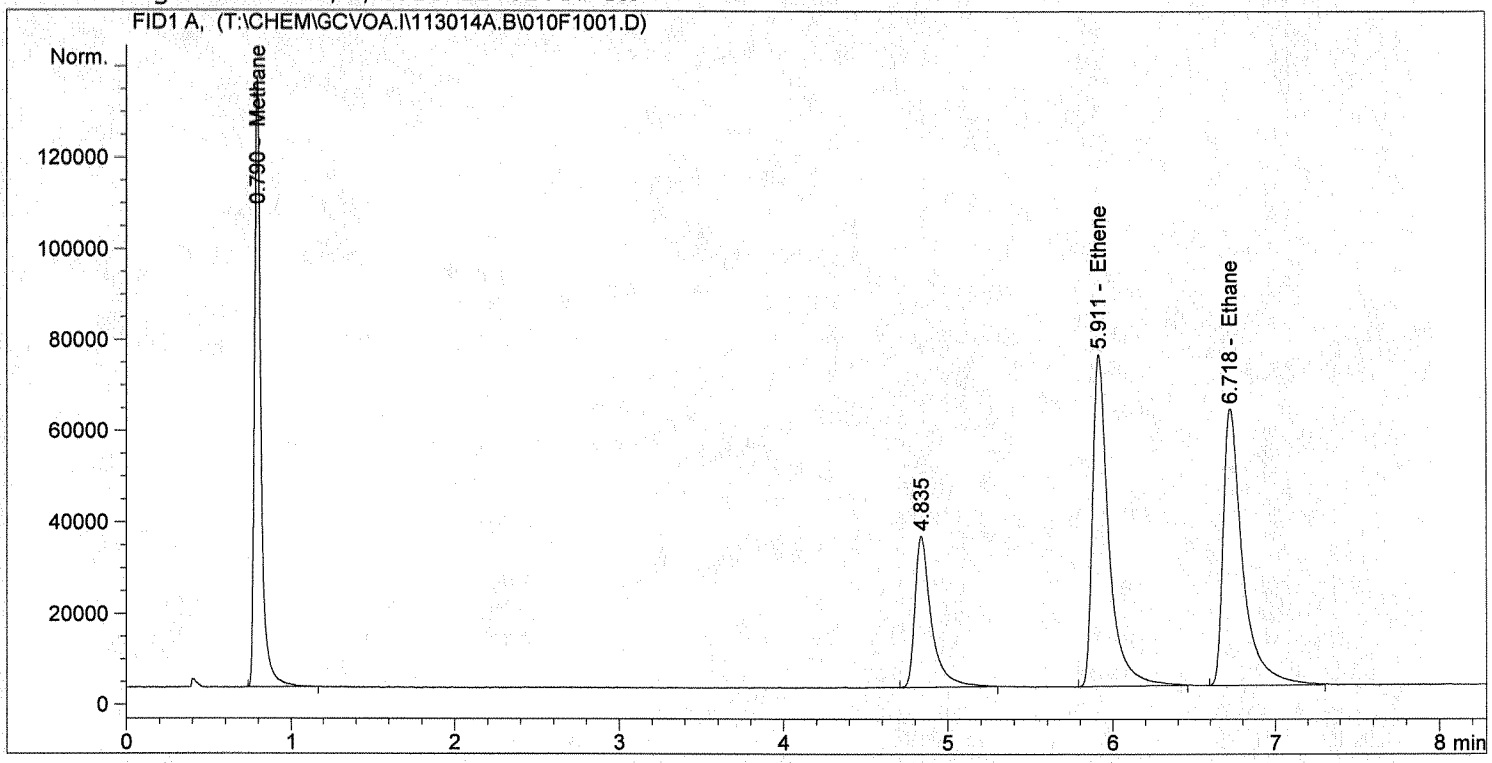
Warning : Calibration warnings (see calibration table listing)
```

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12/02/14

Data File T:\CHEM\GCVOA.I\113014A.B\010F1001.D
Sample Name: SEQ-ICV1

Acq. Operator	:	Seq. Line	: 10
Acq. Instrument	: GCVOA	Location	: Vial 10
Injection Date	: 12/1/2014 12:44:14 AM	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\HPCHEM\1\METHODS\MEE-FAST.M		
Last changed	: 9/8/2011 1:56:36 PM by RDW		
Analysis Method	: T:\CHEM\GCVOA.I\112614.B\113014MEE.M		
Last changed	: 12/1/2014 12:02:47 PM		



External Standard Report

Sorted By : Signal
Calib. Data Modified : 12/1/2014 11:57:38 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

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Signal 1: FID1 A,

RetTime [min]	Type	Area counts*s	Amt/Area	Amount [ug/L]	Grp	Name
0.790	BBA +	3.63070e5	2.49501e-6	9.05862e-1		Methane
5.911	BV +	5.07854e5	1.91160e-6	9.70816e-1		Ethene
6.718	BV +	5.06658e5	1.81649e-6	9.20337e-1		Ethane
Totals :				2.79701		

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1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

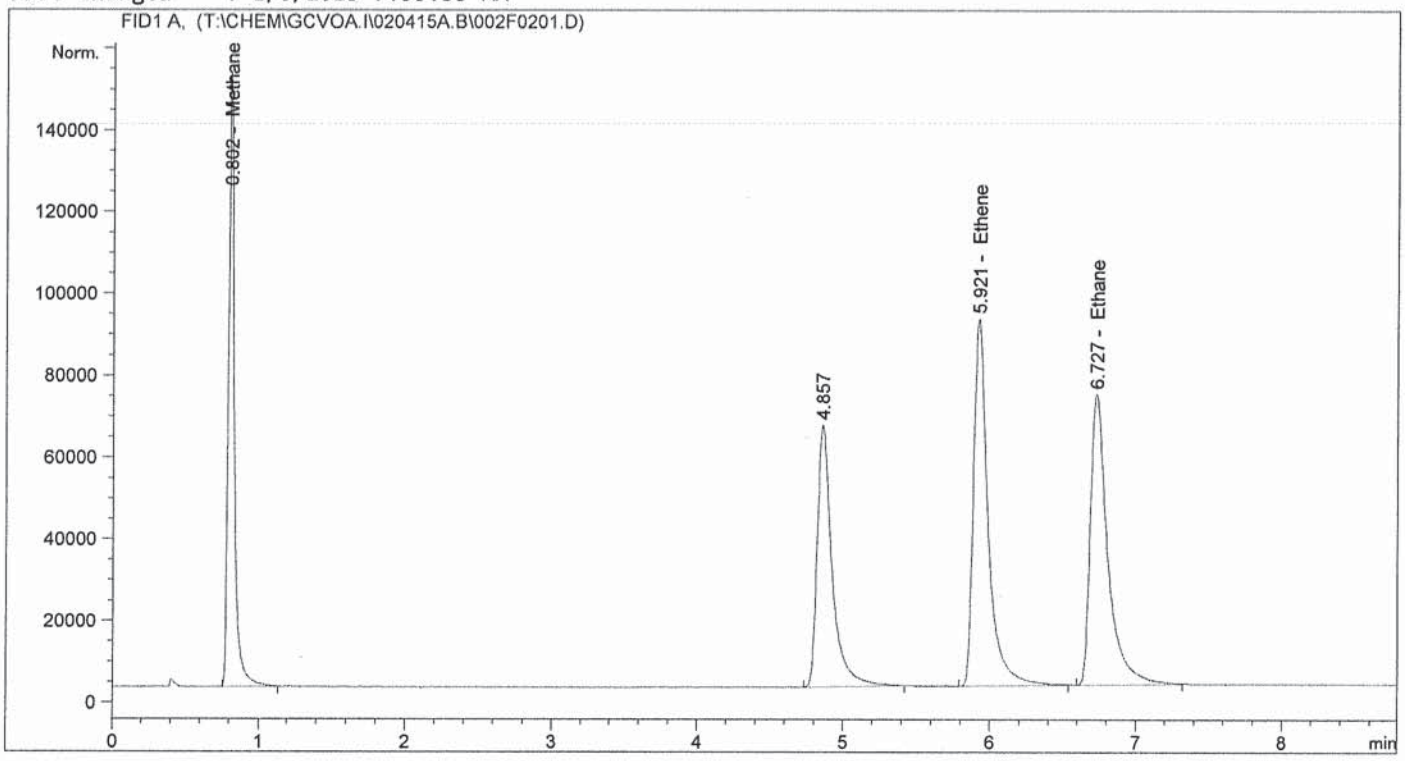
Partial Sequence: C:\HPCHEM\1\SEQUENCE\020415.S \GCVOA\FID\MEE

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Sel	Run	Location	Method	Datafile	SeqTable	Calib:RF:RT	Sample Name
No	1	Vial 1	MEE-FAST	001F0101	F:01:01		INST BLANK
No	2	Vial 2	MEE-FAST	002F0201	F:02:01		SEQ-CCV1 15B0103
No	3	Vial 3	MEE-FAST	003F0301	F:03:01		5B04002-BLK1 x1
No	4	Vial 4	MEE-FAST	004F0401	F:04:01		5B04002-BS1
No	5	Vial 5	MEE-FAST	005F0501	F:05:01		1501102-01
No	6	Vial 6	MEE-FAST	006F0601	F:06:01		1501102-02
No	7	Vial 7	MEE-FAST	007F0701	F:07:01		1501102-04
No	8	Vial 8	MEE-FAST	008F0801	F:08:01		1501102-05
No	9	Vial 9	MEE-FAST	009F0901	F:09:01		1501104-01
No	10	Vial 10	MEE-FAST	010F1001	F:10:01		1501104-02
No	11	Vial 11	MEE-FAST	011F1101	F:11:01		5B04002-MS1
No	12	Vial 12	MEE-FAST	012F1201	F:12:01		5B04002-MSD1
No	13	Vial 13	MEE-FAST	013F1301	F:13:01		1501104-03
No	14	Vial 14	MEE-FAST	014F1401	F:14:01		1501104-04
No	15	Vial 15	MEE-FAST	015F1501	F:15:01		1501104-05
No	16	Vial 16	MEE-FAST	016F1601	F:16:01		1501116-02
No	17	Vial 17	MEE-FAST	017F1701	F:17:01		SEQ-CCV2 15B0103
No	18	Vial 18	MEE-FAST	018F1801	F:18:01		1501116-03 x1
No	19	Vial 19	MEE-FAST	019F1901	F:19:01		1501116-04
No	20	Vial 20	MEE-FAST	020F2001	F:20:01		1501116-05
No	21	Vial 21	MEE-FAST	021F2101	F:21:01		5B04002-MS2
No	22	Vial 22	MEE-FAST	022F2201	F:22:01		5B04002-MSD2
No	23	Vial 23	MEE-FAST	023F2301	F:23:01		1501116-06
No	24	Vial 24	MEE-FAST	024F2401	F:24:01		1501116-07
No	25	Vial 25	MEE-FAST	025F2501	F:25:01		1501124-03
No	26	Vial 26	MEE-FAST	026F2601	F:26:01		1501124-04
No	27	Vial 27	MEE-FAST	027F2701	F:27:01		1501124-05
No	28	Vial 28	MEE-FAST	028F2801	F:28:01		1501134-03
No	29	Vial 29	MEE-FAST	029F2901	F:29:01		SEQ-CCV3 15B0103

Data File T:\CHEM\GCVOA.I\020415A.B\002F0201.D
Sample Name: SEQ-CCV1

```
======================================================================
Acq. Operator   :                                Seq. Line :   2
Acq. Instrument : GCVOA                           Location : Vial 2
Injection Date  : 2/4/2015 11:47:29 AM                Inj :   1
                                                 Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
```




```
======================================================================
                    External Standard Report
======================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                 [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.802 BB   +  4.21863e5  2.53276e-6    1.06848    Methane
  5.921 BB   +  6.25981e5  1.91160e-6    1.19663    Ethene
  6.727 BV   +  5.93307e5  1.81649e-6    1.07773    Ethane

Totals :                                 3.34284

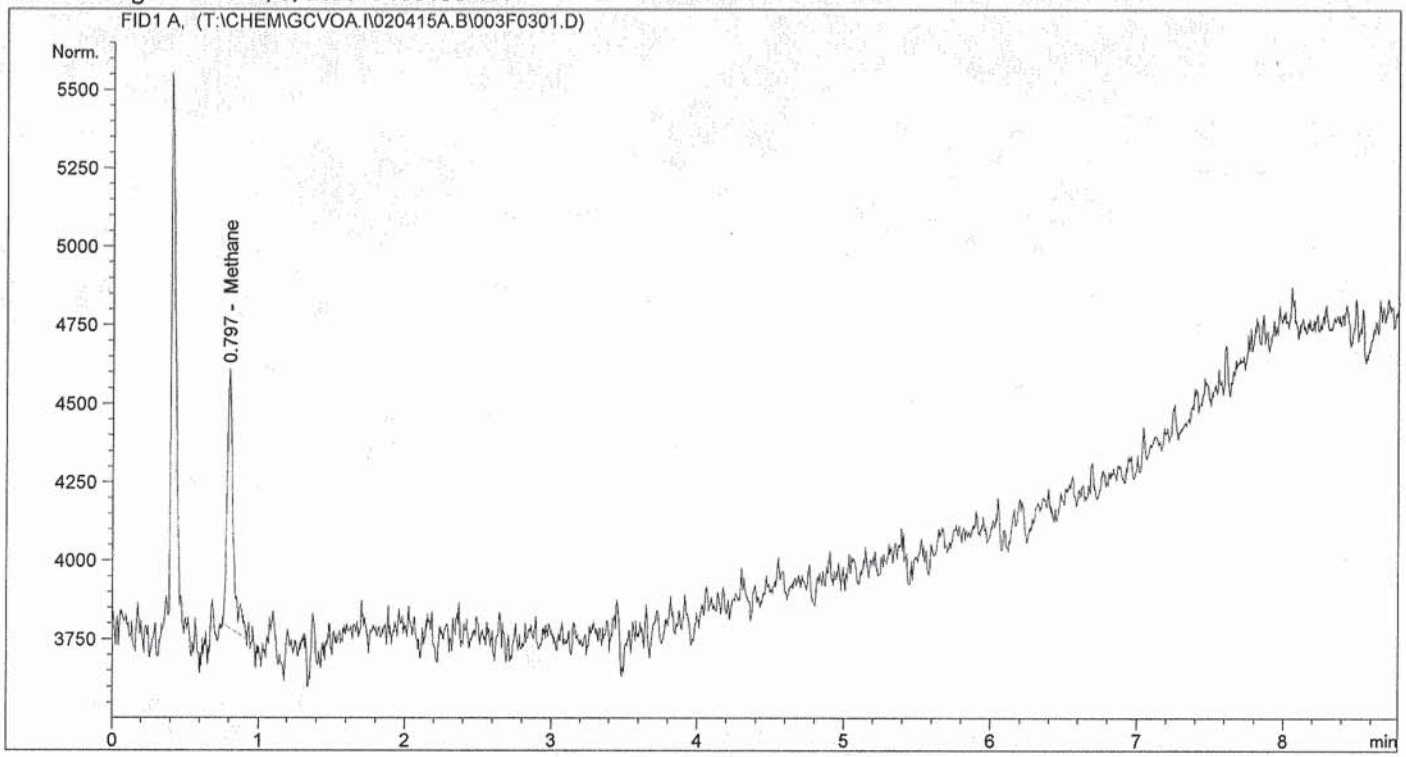

======================================================================
                        *** End of Report ***
```

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Data File T:\CHEM\GCVOA.I\020415A.B\003F0301.D
Sample Name: 5B04002-BLK1

```
======================================================================
Acq. Operator    :                                Seq. Line :   3
Acq. Instrument : GCVOA                            Location : Vial 3
Injection Date  : 2/4/2015 12:01:06 PM                 Inj :   1
                                                 Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
```




```
======================================================================
                    External Standard Report
======================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.797 BB   +  2331.34180    0.00000    0.00000-   Methane
  5.921            -           -          -     -   Ethene
  6.727            -           -          -     -   Ethane

Totals :                                 0.00000

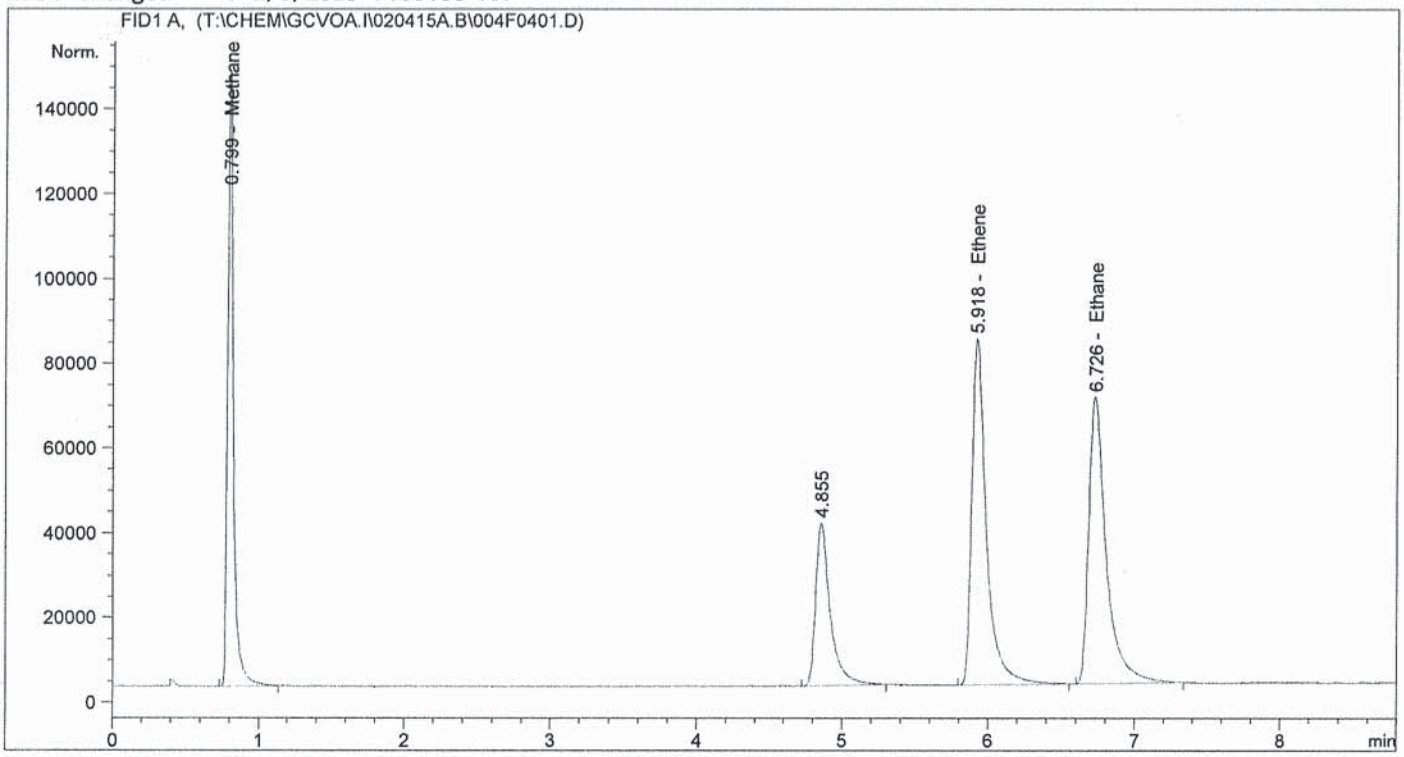

3 Warnings or Errors :
```

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Data File T:\CHEM\GCVOA.I\020415A.B\004F0401.D
Sample Name: 5B04002-BS1

```
======================================================================
Acq. Operator   :                              Seq. Line :   4
Acq. Instrument : GCVOA                         Location : Vial 4
Injection Date  : 2/4/2015 12:14:40 PM              Inj :   1
                                               Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
```




```
======================================================================
                    External Standard Report
======================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                 [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.799 BB   +  4.03003e5  2.52065e-6    1.01583    Methane
  5.918 BB   +  5.69819e5  1.91160e-6    1.08927    Ethene
  6.726 BB   +  5.61935e5  1.81649e-6    1.02075    Ethane

Totals :                                 3.12585

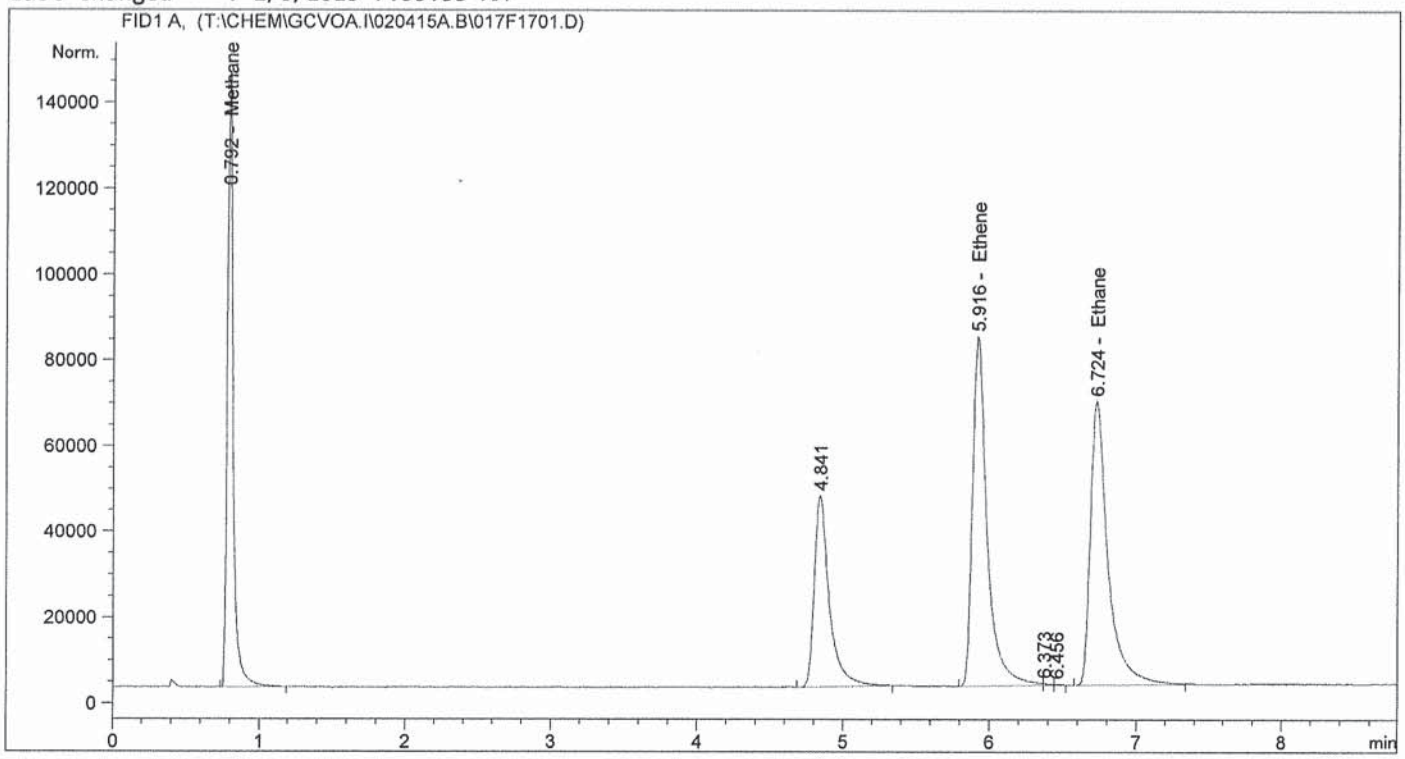

======================================================================
                        *** End of Report ***
```

02/09/15

NS 2/6/15

Data File T:\CHEM\GCVOA.I\020415A.B\017F1701.D
Sample Name: SEQ-CCV2

```
==========================================================================
Acq. Operator   :                                Seq. Line :  17
Acq. Instrument : GCVOA                           Location : Vial 17
Injection Date  : 2/4/2015 3:11:15 PM                 Inj :   1
                                                 Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                 [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.792 BBA +  3.94075e5  2.51492e-6 9.91067e-1    Methane
  5.916 BV  +  5.67743e5  1.91160e-6    1.08530    Ethene
  6.724 BV  +  5.55950e5  1.81649e-6    1.00988    Ethane

Totals :                                3.08624

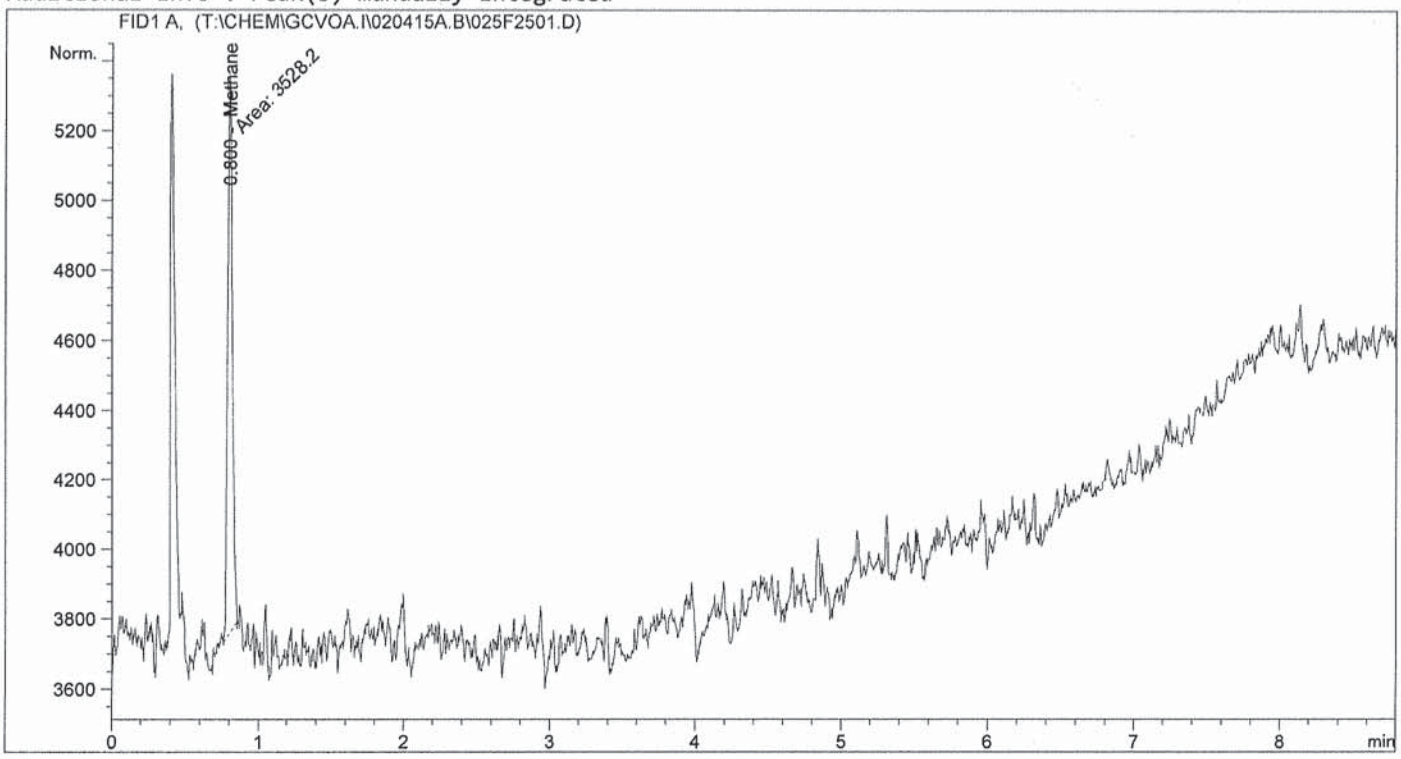

==========================================================================
                         *** End of Report ***
```

MS 2/6/15

02/09/15

Data File T:\CHEM\GCVOA.I\020415A.B\025F2501.D
Sample Name: 1501124-03

```
======================================================================
Acq. Operator   :                              Seq. Line :  25
Acq. Instrument : GCVOA                         Location : Vial 25
Injection Date  : 2/4/2015 4:59:55 PM                Inj :   1
                                              Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
Additional Info : Peak(s) manually integrated
```




```
======================================================================
                    External Standard Report
======================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs
```

MS 2/6/15

02/09/15

Signal 1: FID1 A,

RetTime [min]	Type	Area counts*s	Amt/Area	Amount [ug/L]	Grp	Name
0.800	MM +	3528.19873	0.00000	0.00000	-	Methane
5.921		-	-	-	-	Ethene
6.727		-	-	-	-	Ethane

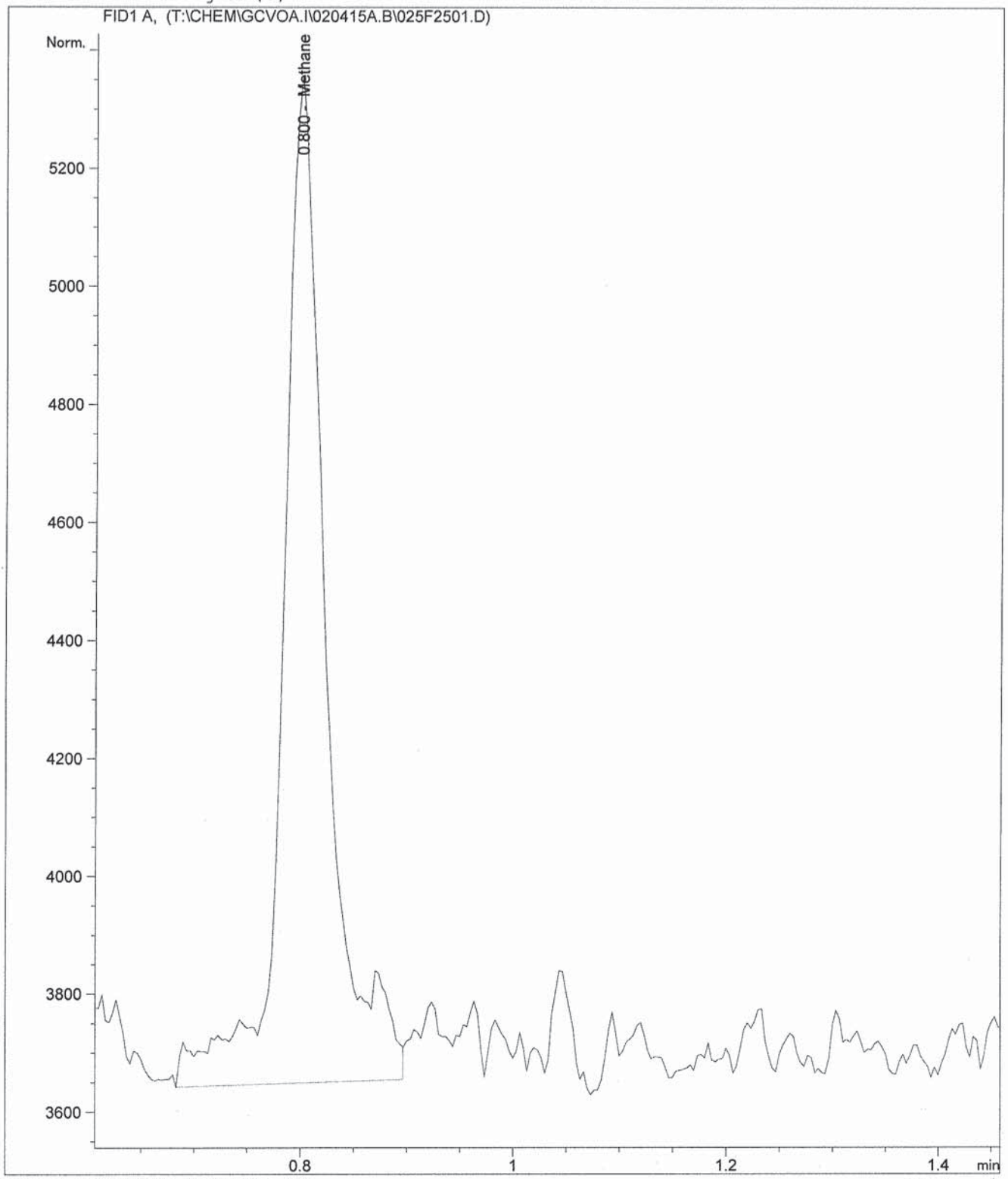
Totals : 0.00000

3 Warnings or Errors :

Print of window 38: Current Chromatogram(s)
Data File : T:\CHEM\GCVOA.I\020415A.B\025F2501.D
Sample Name : 1501124-03

Acq. Operator : Seq. Line : 25
Acq. Instrument : GCVOA Location : Vial 25
Injection Date : 2/4/2015 4:59:55 PM Inj : 1
Inj Volume : Manually
Acq. Method : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed : 2/6/2015 7:55:33 AM

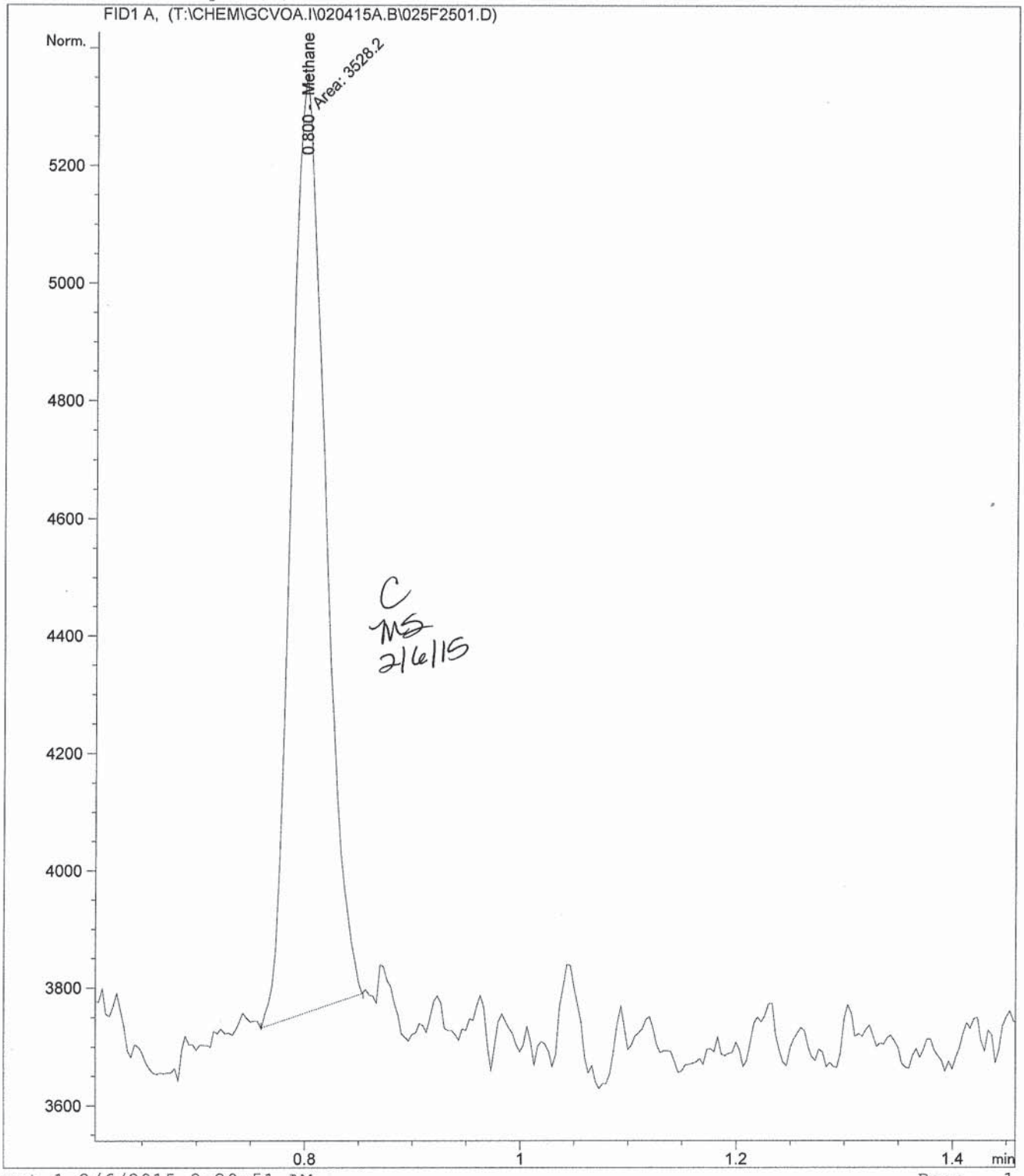
Current Chromatogram(s)



Print of window 38: Current Chromatogram(s)
Data File : T:\CHEM\GCVOA.I\020415A.B\025F2501.D
Sample Name : 1501124-03

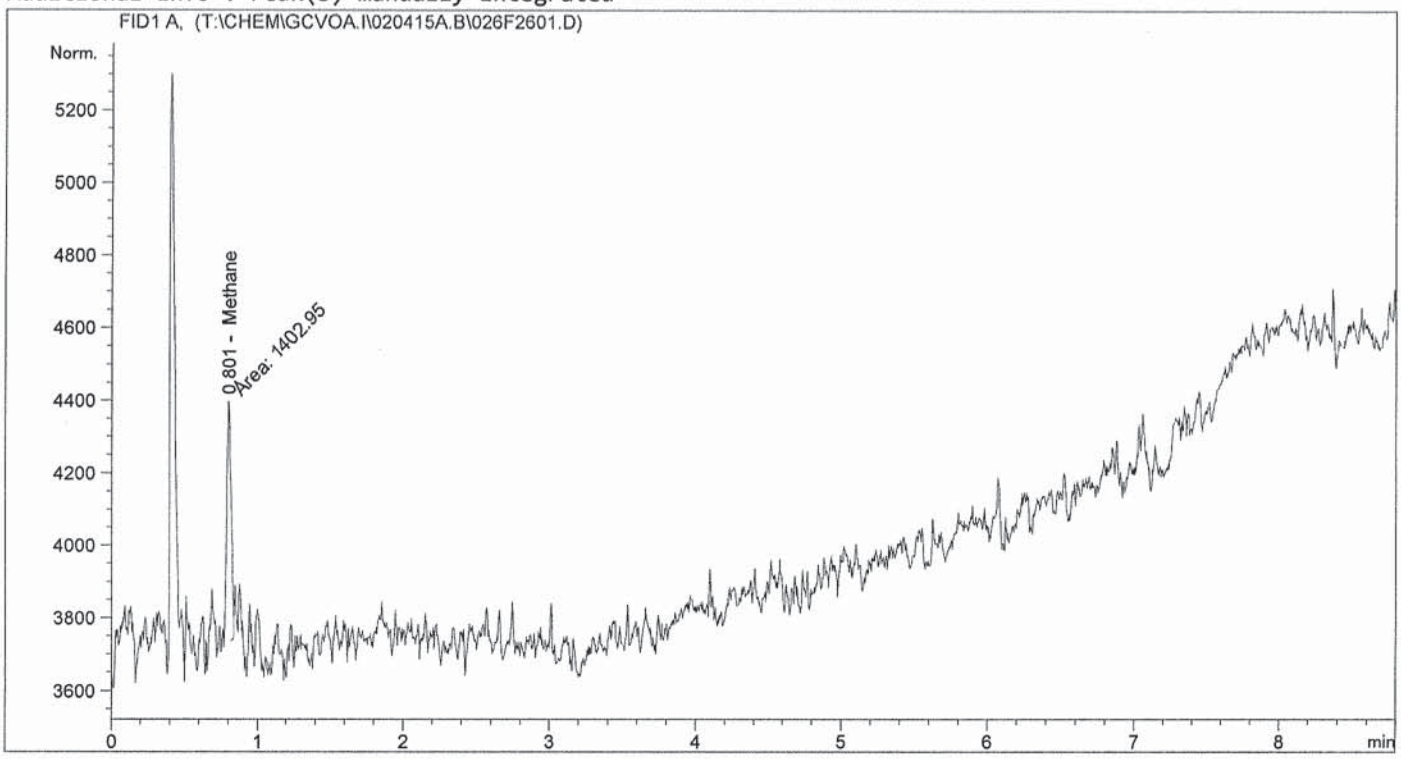
Acq. Operator	:	Seq. Line	: 25
Acq. Instrument	: GCVOA	Location	: Vial 25
Injection Date	: 2/4/2015 4:59:55 PM	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\HPCHEM\1\METHODS\MEE-FAST.M		
Last changed	: 2/4/2015 11:03:36 AM		
Analysis Method	: T:\CHEM\GCVOA.I\020415A.B\113014MEE.M		
Last changed	: 2/6/2015 7:55:33 AM		
Additional Info	: Peak(s) manually integrated		

Current Chromatogram(s)



Data File T:\CHEM\GCVOA.I\020415A.B\026F2601.D
Sample Name: 1501124-04

```
==========================================================================
Acq. Operator   :                                Seq. Line :  26
Acq. Instrument : GCVOA                           Location : Vial 26
Injection Date  : 2/4/2015 5:13:28 PM                 Inj :   1
                                                 Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
Additional Info : Peak(s) manually integrated
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.801 MF   +  1402.95410    0.00000    0.00000-   Methane
  5.921            -           -          -     -   Ethene
  6.727            -           -          -     -   Ethane

Totals :                                 0.00000


3 Warnings or Errors :
```

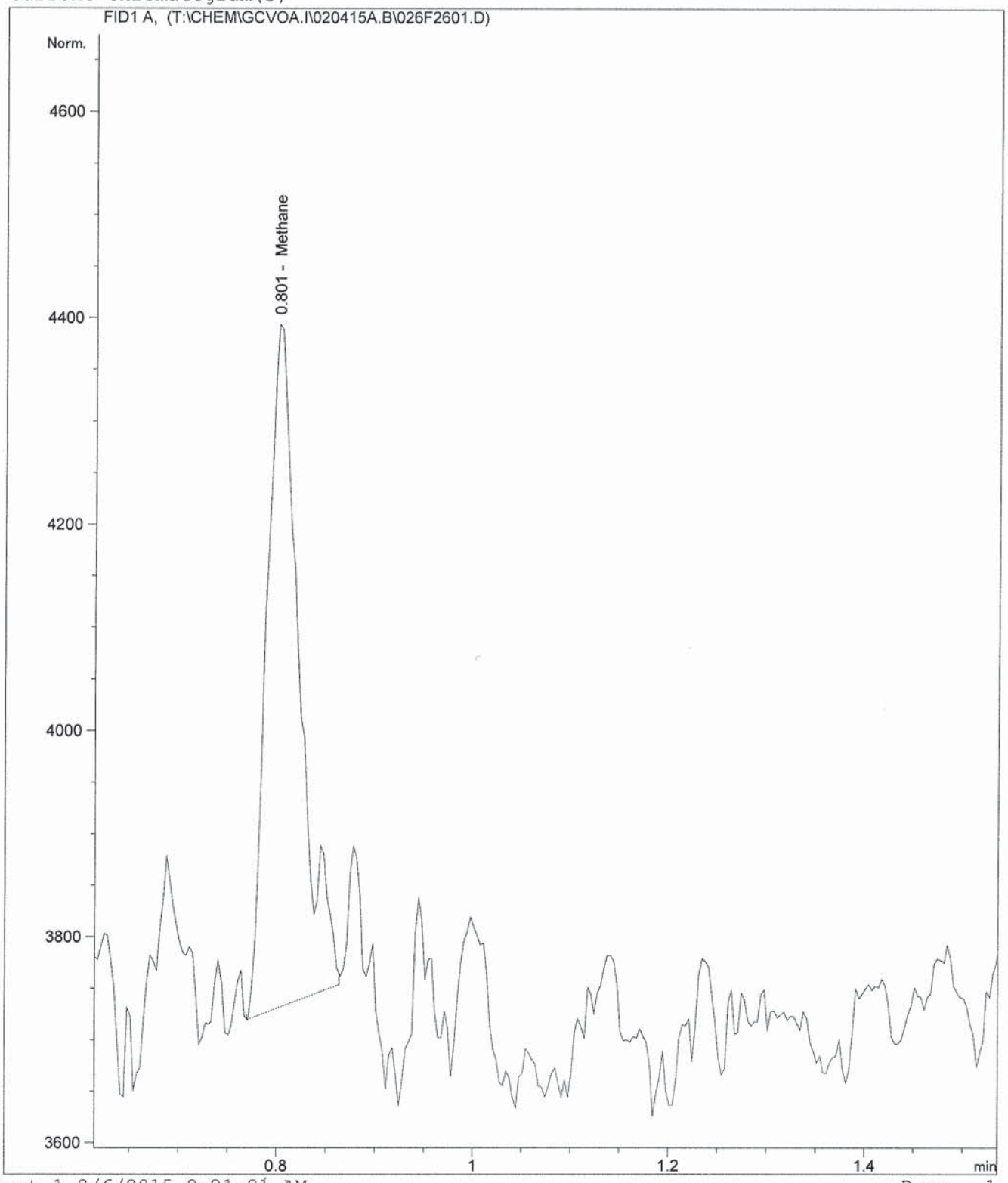
02/09/15

MS
2/6/15

Print of window 38: Current Chromatogram(s)
Data File : T:\CHEM\GCVOA.I\020415A.B\026F2601.D
Sample Name : 1501124-04

Acq. Operator	:	Seq. Line	: 26
Acq. Instrument	: GCVOA	Location	: Vial 26
Injection Date	: 2/4/2015 5:13:28 PM	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\HPCHEM\1\METHODS\MEE-FAST.M		
Last changed	: 2/4/2015 11:03:36 AM		
Analysis Method	: T:\CHEM\GCVOA.I\020415A.B\113014MEE.M		
Last changed	: 2/6/2015 7:55:33 AM		

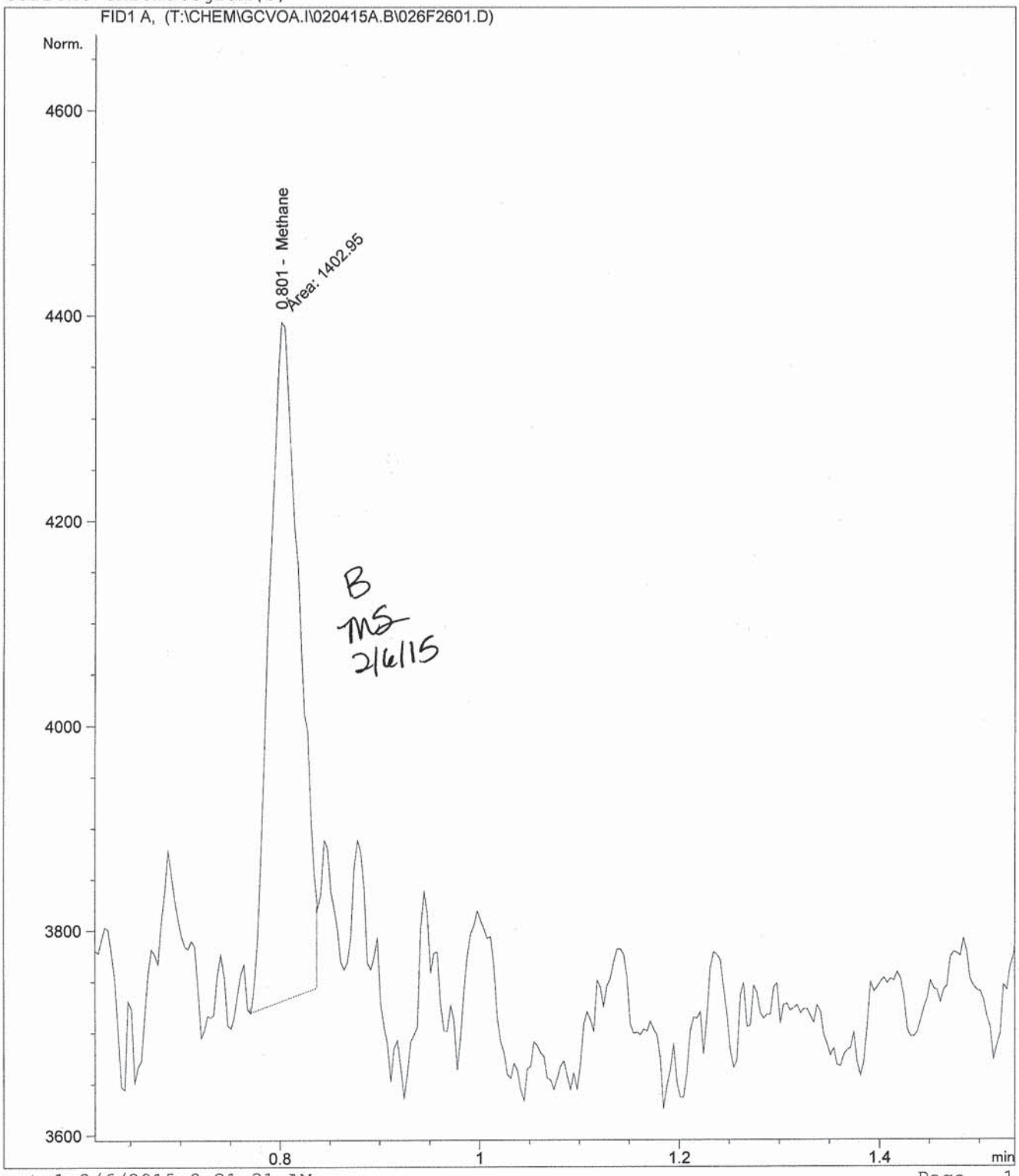
Current Chromatogram(s)



Print of window 38: Current Chromatogram(s)
Data File : T:\CHEM\GCVOA.I\020415A.B\026F2601.D
Sample Name : 1501124-04

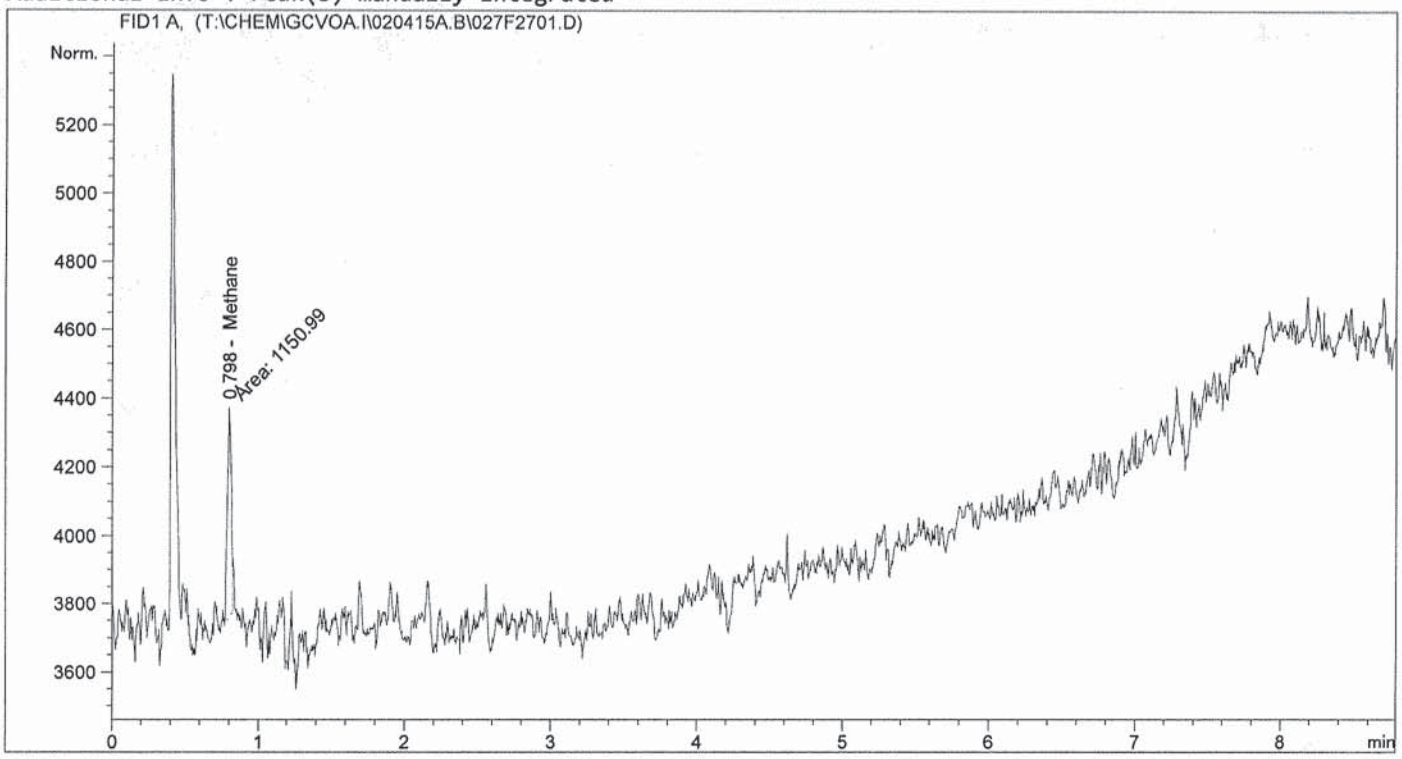
Acq. Operator	:	Seq. Line	: 26
Acq. Instrument	: GCVOA	Location	: Vial 26
Injection Date	: 2/4/2015 5:13:28 PM	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\HPCHEM\1\METHODS\MEE-FAST.M		
Last changed	: 2/4/2015 11:03:36 AM		
Analysis Method	: T:\CHEM\GCVOA.I\020415A.B\113014MEE.M		
Last changed	: 2/6/2015 7:55:33 AM		
Additional Info	: Peak(s) manually integrated		

Current Chromatogram(s)



Data File T:\CHEM\GCVOA.I\020415A.B\027F2701.D
Sample Name: 1501124-05

```
======================================================================
Acq. Operator   :                              Seq. Line :  27
Acq. Instrument : GCVOA                         Location : Vial 27
Injection Date  : 2/4/2015 5:27:04 PM               Inj :   1
                                               Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
Additional Info : Peak(s) manually integrated
```




```
======================================================================
                    External Standard Report
======================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                 [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.798 MF   +  1150.99402    0.00000    0.00000-   Methane
  5.921            -           -          -     -   Ethene
  6.727            -           -          -     -   Ethane

Totals :                                  0.00000


3 Warnings or Errors :
```

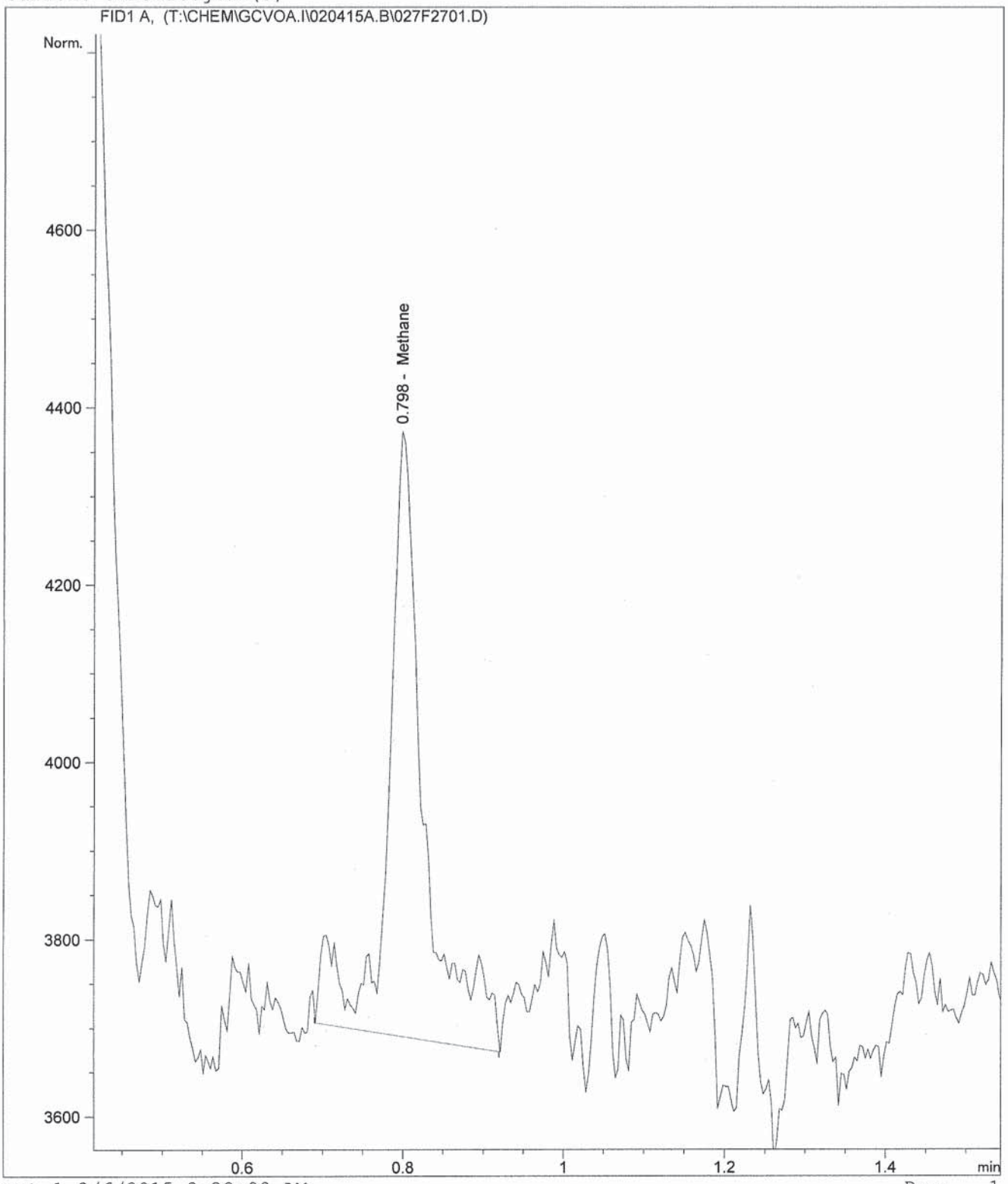
02/09/15

MS 2/6/15

Print of window 38: Current Chromatogram(s)
Data File : T:\CHEM\GCVOA.I\020415A.B\027F2701.D
Sample Name : 1501124-05

Acq. Operator	:	Seq. Line	: 27
Acq. Instrument	: GCVOA	Location	: Vial 27
Injection Date	: 2/4/2015 5:27:04 PM	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\HPCHEM\1\METHODS\MEE-FAST.M		
Last changed	: 2/4/2015 11:03:36 AM		
Analysis Method	: T:\CHEM\GCVOA.I\020415A.B\113014MEE.M		
Last changed	: 2/6/2015 7:55:33 AM		

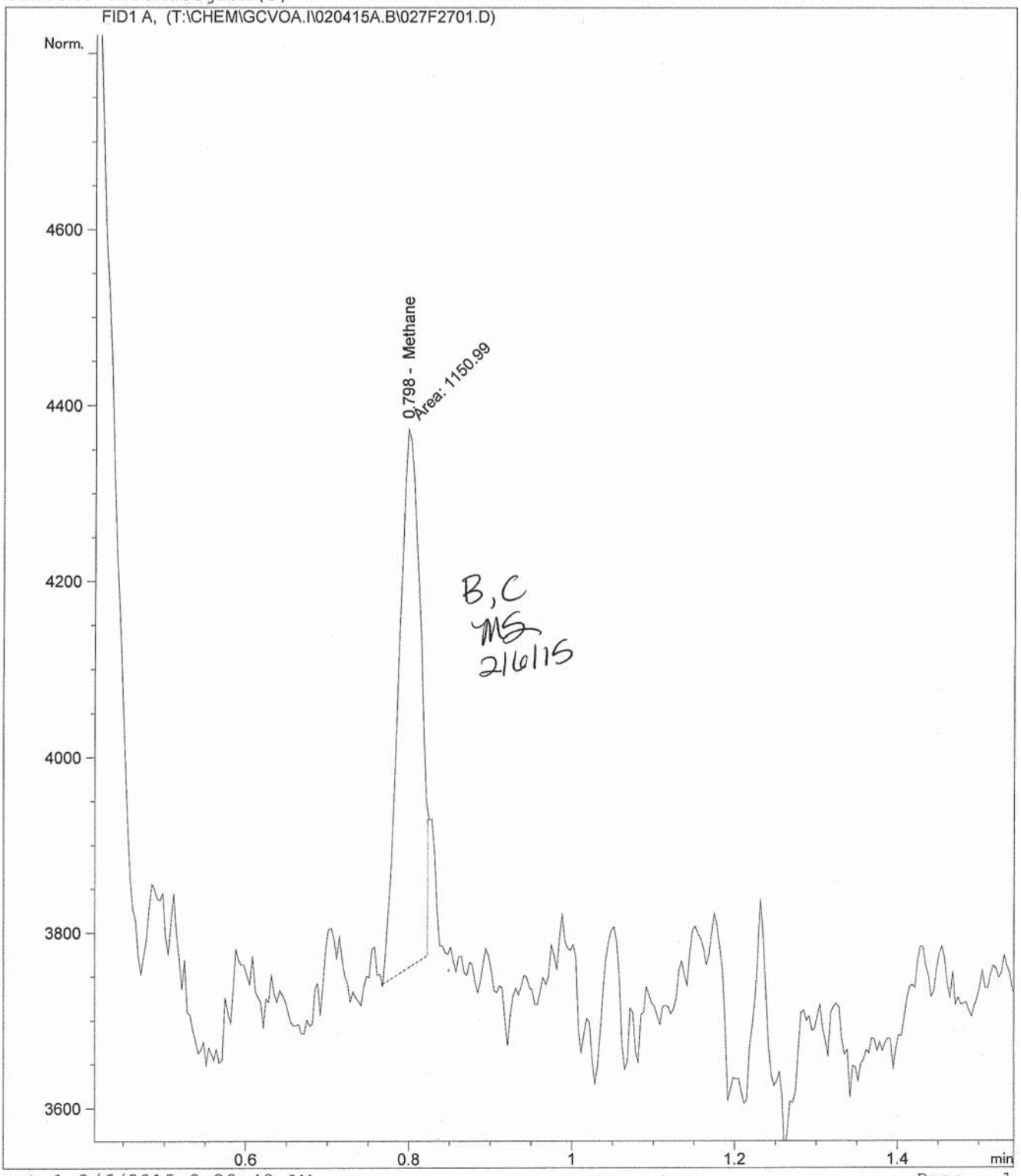
Current Chromatogram(s)



Print of window 38: Current Chromatogram(s)
Data File : T:\CHEM\GCVOA.I\020415A.B\027F2701.D
Sample Name : 1501124-05

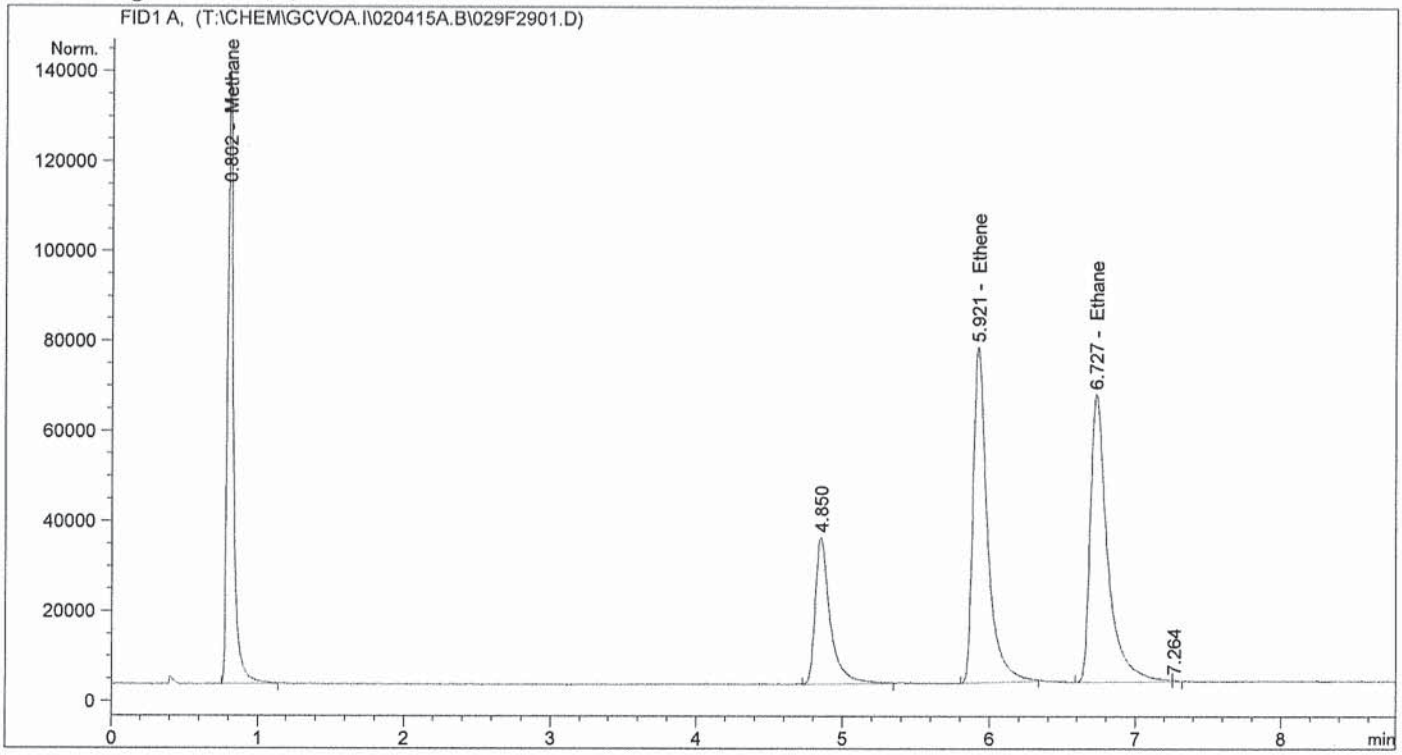
Acq. Operator	:	Seq. Line	: 27
Acq. Instrument	: GCVOA	Location	: Vial 27
Injection Date	: 2/4/2015 5:27:04 PM	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\HPCHEM\1\METHODS\MEE-FAST.M		
Last changed	: 2/4/2015 11:03:36 AM		
Analysis Method	: T:\CHEM\GCVOA.I\020415A.B\113014MEE.M		
Last changed	: 2/6/2015 7:55:33 AM		
Additional Info	: Peak(s) manually integrated		

Current Chromatogram(s)



Data File T:\CHEM\GCVOA.I\020415A.B\029F2901.D
Sample Name: SEQ-CCV3

```
==========================================================================
Acq. Operator   :                                Seq. Line :  29
Acq. Instrument : GCVOA                           Location : Vial 29
Injection Date  : 2/4/2015 5:54:12 PM                 Inj :   1
                                                 Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.802 BB   +  3.80852e5  2.50644e-6 9.54581e-1    Methane
  5.921 BV   +  5.13049e5  1.91160e-6 9.80747e-1    Ethene
  6.727 BV   +  5.32920e5  1.81649e-6 9.68043e-1    Ethane

Totals :                                2.90337


==========================================================================
                          *** End of Report ***
```

02/09/15

MS 2/6/15

PREPARATION BENCH SHEET

5B04002

Empirical Laboratories, LLC **Printed: 2/9/2015 2:41:57PM**

Instrument:

Matrix: Water **Prepared using: GCLC - RSK175** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID		ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
1501102-01	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501102-02	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501102-04	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501102-05	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501104-01	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501104-02	J	VGC_RSK175_MEE	02/04/2015	15	15							MS/MSD;;
1501104-03	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501104-04	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501104-05	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501116-02	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501116-03	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501116-04	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501116-05	D	VGC_RSK175_MEE	02/04/2015	15	15							MS/MSD;MS/MSD;MS/MSD
1501116-06	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501116-07	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501124-03	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501124-04	D	VGC_RSK175_MEE	02/04/2015	15	15							;;

PREPARATION BENCH SHEET

5B04002

Empirical Laboratories, LLC **Printed: 2/9/2015 2:41:57PM**

Instrument:

Matrix: Water **Prepared using: GCLC - RSK175** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
1501124-05	D	VGC_RSK175_MEE	02/04/2015	15	15						;;
1501134-03	E	VGC_RSK175_MEE	02/04/2015	15	15						;;
5B04002-BLK1		QC	02/04/2015	15	15					NA	
5B04002-BS1		QC	02/04/2015	15	15	13K0238		500		NA	
5B04002-MS1		QC	02/04/2015	15	15	13K0238	1501104-02	500		NA	
5B04002-MS2		QC	02/04/2015	15	15	13K0238	1501116-05	500		NA	
5B04002-MSD1		QC	02/04/2015	15	15	13K0238	1501104-02	500		NA	
5B04002-MSD2		QC	02/04/2015	15	15	13K0238	1501116-05	500		NA	

Reagents Used:

Standard	Description

Data for Wet Chemistry Forms

Sample Extraction Data

Prep Method: WC_PREP_ANIONS_W-SW9056A

Lab Number [Field ID]	Batch	Nominal Initial/Final	Initial [mL]	Final [mL]	Dilution	% Solids	Notes	Date
1501124-03 [48MW2]	5A29009	5.00/5.00	5.00	5.00	1.00			01/29/15
1501124-04 [49MW01]	5A29009	5.00/5.00	5.00	5.00	1.00			01/29/15
1501124-05 [48MW1]	5A29009	5.00/5.00	5.00	5.00	1.00			01/29/15

Sample Extraction Data

Prep Method: pNone-SW9060A

Lab Number [Field ID]	Batch	Nominal Initial/Final	Initial [mL]	Final [mL]	Dilution	% Solids	Notes	Date
1501124-03 [48MW2]	5B05019	40.00/40.00	40.0	40.0	1.00			02/05/15
1501124-04 [49MW01]	5B05019	40.00/40.00	40.0	40.0	1.00			02/05/15
1501124-05 [48MW1]	5B05019	40.00/40.00	40.0	40.0	1.00			02/05/15

ANALYSIS DATA SHEET

48MW2

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
Sampled: 01/28/15 12:00

SDG: 1501124
Project: Radford AAP
Laboratory ID: 1501124-03
Received: 01/29/15 09:45

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
16887-00-6	Chloride	**2.65**	**0.170**	0.330	0.500	1		SW9056A	5A29009	01/29/15 14:18
14797-55-8	Nitrate as N	**0.754**	**0.0330**	0.100	0.250	1		SW9056A	5A29009	01/29/15 14:18
14808-79-8	Sulfate as SO4	**16.8**	**0.330**	1.00	2.50	1		SW9056A	5A29009	01/29/15 14:18
7440-44-0	Total Organic Carbon AVG		1.25	2.50	3.00	1	U	SW9060A	5B05019	02/05/15 21:03

ANALYSIS DATA SHEET

49MW01

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
Sampled: 01/28/15 13:20

SDG: 1501124
Project: Radford AAP
Laboratory ID: 1501124-04
Received: 01/29/15 09:45

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
16887-00-6	Chloride	**6.03**	**0.170**	0.330	0.500	1		SW9056A	5A29009	01/29/15 14:35
14797-55-8	Nitrate as N	**0.303**	**0.0330**	0.100	0.250	1		SW9056A	5A29009	01/29/15 14:35
14808-79-8	Sulfate as SO4		0.330	1.00	2.50	1	U	SW9056A	5A29009	01/29/15 14:35
7440-44-0	Total Organic Carbon AVG		1.25	2.50	3.00	1	U	SW9060A	5B05019	02/05/15 21:26

ANALYSIS DATA SHEET

48MW1

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
Sampled: 01/28/15 14:30

SDG: 1501124
Project: Radford AAP
Laboratory ID: 1501124-05
Received: 01/29/15 09:45

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
16887-00-6	Chloride	**3.10**	**0.170**	0.330	0.500	1		SW9056A	5A29009	01/29/15 14:53
14797-55-8	Nitrate as N	**1.35**	**0.0330**	0.100	0.250	1		SW9056A	5A29009	01/29/15 14:53
14808-79-8	Sulfate as SO4	**58.0**	**0.330**	1.00	2.50	1		SW9056A	5A29009	01/29/15 14:53
7440-44-0	Total Organic Carbon AVG		1.25	2.50	3.00	1	U	SW9060A	5B05019	02/05/15 21:48

ANALYSIS DATA SHEET

Blank

Laboratory: Empirical Laboratories, LLC
SDG: 1501124
Client: CB&I
Project: Radford AAP
Matrix: Water
Laboratory ID: 5A29009-BLK1
% Solids:

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
16887-00-6	Chloride	ND	0.170	0.330	0.500	1	U	SW9056A	5A29009	01/29/15 13:42
14797-55-8	Nitrate as N	ND	0.0330	0.100	0.250	1	U	SW9056A	5A29009	01/29/15 13:42
14808-79-8	Sulfate as SO4	ND	0.330	1.00	2.50	1	U	SW9056A	5A29009	01/29/15 13:42

ANALYSIS DATA SHEET

LCS

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
% Solids:

SDG: 1501124
Project: Radford AAP
Laboratory ID: 5A29009-BS1

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
16887-00-6	Chloride	**4.583**	**0.170**	0.330	0.500	1		SW9056A	5A29009	01/29/15 14:00
14797-55-8	Nitrate as N	**3.050**	**0.0330**	0.100	0.250	1		SW9056A	5A29009	01/29/15 14:00
14808-79-8	Sulfate as SO4	**22.01**	**0.330**	1.00	2.50	1		SW9056A	5A29009	01/29/15 14:00

ANALYSIS DATA SHEET

Blank

Laboratory: Empirical Laboratories, LLC
SDG: 1501124
Client: CB&I
Project: Radford AAP
Matrix: Water
Laboratory ID: 5B05019-BLK1
% Solids:

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-44-0	Total Organic Carbon AVG	ND	1.25	2.50	3.00	1	U	SW9060A	5B05019	02/05/15 16:51

ANALYSIS DATA SHEET

LCS

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
% Solids:

SDG: 1501124
Project: Radford AAP
Laboratory ID: 5B05019-BS1

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-44-0	Total Organic Carbon AVG	**27.87**	**1.25**	2.50	3.00	1		SW9060A	5B05019	02/05/15 17:22

INITIAL AND CONTINUING CALIBRATION CHECK

SW9056A

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Instrument ID: WC-IC2

SDG: 1501124
Project: Radford AAP
Calibration: 4351002
Sequence: 4L35114

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
4L35114-ICV1	Chloride	4.200	4.198	100	mg/L	+/- 10.00%
	Nitrate as N	3.164	3.141	99.3	mg/L	+/- 10.00%
	Sulfate as SO4	21.00	22.77	108	mg/L	+/- 10.00%

INITIAL AND CONTINUING CALIBRATION CHECK

SW9056A

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Instrument ID: WC-IC2

SDG: 1501124
Project: Radford AAP
Calibration: 4351002
Sequence: 5B03605

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
5B03605-CCV1	Chloride	25.00	26.12	104	mg/L	+/- 10.00%
	Nitrate as N	2.500	2.520	101	mg/L	+/- 10.00%
	Sulfate as SO4	25.00	26.60	106	mg/L	+/- 10.00%
5B03605-CCV2	Chloride	25.00	26.15	105	mg/L	+/- 10.00%
	Nitrate as N	2.500	2.525	101	mg/L	+/- 10.00%
	Sulfate as SO4	25.00	26.61	106	mg/L	+/- 10.00%

INITIAL AND CONTINUING CALIBRATION CHECK

SW9060A

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Instrument ID: WC-TOC1

SDG: 1501124
Project: Radford AAP
Calibration: 5023004
Sequence: 5B04116

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
5B04116-CCV1	Total Organic Carbon AVG	25.00	28.31	113	mg/L	+/- 20.00%
5B04116-CCV2	Total Organic Carbon AVG	50.00	57.11	114	mg/L	+/- 20.00%

CRDL STANDARD

SW9056A

Laboratory: Empirical Laboratories, LLC

SDG: 1501124

Client: CB&I

Project: Radford AAP

Instrument ID: WC-IC2

Calibration: 4351002

Sequence: 5B03605

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
5B03605-CRL1	Chloride	0.5000	0.7080	142	mg/L	50 - 150
	Nitrate as N	0.05000	0.04600	92.0	mg/L	50 - 150
	Sulfate as SO4	0.5000	0.5670	113	mg/L	50 - 150

METHOD BLANKS
SW9056A

Laboratory: Empirical Laboratories, LLC
SDG: 1501124
Client: CB&I
Project: Radford AAP
Batch: 5A29009

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
5A29009-BLK1	Chloride	0.128	0.170	0.500	mg/L	U	SW9056A
	Nitrate as N	0.00200	0.0330	0.250	mg/L	U	SW9056A
	Sulfate as SO4	0.00830	0.330	2.50	mg/L	U	SW9056A

METHOD BLANKS

SW9060A

Laboratory: Empirical Laboratories, LLC

SDG: 1501124

Client: CB&I

Project: Radford AAP

Batch: 5B05019

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
5B05019-BLK1	Total Organic Carbon AVG	0.118	1.25	3.00	mg/L	U	SW9060A

BLANKS
SW9056A

Laboratory: Empirical Laboratories, LLC
SDG: 1501124
Client: CB&I
Project: Radford AAP
Sequence: 5B03605
Calibration: 4351002
Instrument ID: WC-IC2

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
5B03605-CCB1	Chloride	0.0173	0.170	0.500	mg/L	U	SW9056A
	Nitrate as N	0.00120	0.0330	0.250	mg/L	U	SW9056A
	Sulfate as SO4	0.0147	0.330	2.50	mg/L	U	SW9056A
5B03605-CCB2	Chloride	0.0198	0.170	0.500	mg/L	U	SW9056A
	Nitrate as N	0.00190	0.0330	0.250	mg/L	U	SW9056A
	Sulfate as SO4	0.0333	0.330	2.50	mg/L	U	SW9056A

BLANKS
SW9060A

Laboratory: Empirical Laboratories, LLC
SDG: 1501124
Client: CB&I
Project: Radford AAP
Sequence: 5B04116
Calibration: 5023004
Instrument ID: WC-TOC1

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
5B04116-CCB1	Total Organic Carbon AVG	0.142	1.25	3.00	mg/L	U	SW9060A
5B04116-CCB2	Total Organic Carbon AVG	0.126	1.25	3.00	mg/L	U	SW9060A

LCS / LCS DUPLICATE RECOVERY

SW9056A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501124
Client:	CB&I	Project:	Radford AAP
Matrix:	Water		
Batch:	5A29009	Laboratory ID:	5A29009-BS1
Preparation:	WC_PREP_ANIONS_W	Initial/Final:	5 mL / 5 mL

ANALYTE	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC.	QC LIMITS REC.
Chloride	4.200	4.583	109	80 - 120
Nitrate as N	3.164	3.050	96.4	80 - 120
Sulfate as SO4	21.00	22.01	105	80 - 120

LCS / LCS DUPLICATE RECOVERY

SW9060A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501124
Client:	CB&I	Project:	Radford AAP
Matrix:	Water		
Batch:	5B05019	Laboratory ID:	5B05019-BS1
Preparation:	pNone	Initial/Final:	40 mL / 40 mL

ANALYTE	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC.	QC LIMITS REC.
Total Organic Carbon AVG	25.00	27.87	111	80 - 120

PREPARATION BATCH SUMMARY

SW9056A

Laboratory: Empirical Laboratories, LLC SDG: 1501124

Client: CB&I Project: Radford AAP

Batch: 5A29009 Batch Matrix: Water Preparation: WC_PREP_ANIONS_W

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
48MW2	1501124-03	01/29/15 10:40	5.00	5.00
49MW01	1501124-04	01/29/15 10:40	5.00	5.00
48MW1	1501124-05	01/29/15 10:40	5.00	5.00
Blank	5A29009-BLK1	01/29/15 10:40	5.00	5.00
LCS	5A29009-BS1	01/29/15 10:40	5.00	5.00

PREPARATION BATCH SUMMARY

SW9060A

Laboratory: Empirical Laboratories, LLC SDG: 1501124

Client: CB&I Project: Radford AAP

Batch: 5B05019 Batch Matrix: Water Preparation: pNone

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
48MW2	1501124-03	02/05/15 14:56	40.00	40.00
49MW01	1501124-04	02/05/15 14:56	40.00	40.00
48MW1	1501124-05	02/05/15 14:56	40.00	40.00
Blank	5B05019-BLK1	02/05/15 14:56	40.00	40.00
LCS	5B05019-BS1	02/05/15 14:56	40.00	40.00

ANALYSIS SEQUENCE SUMMARY

SW9056A

Laboratory: Empirical Laboratories, LLC
SDG: 1501124
Client: CB&I
Project: Radford AAP
Sequence: 4L35114
Instrument: WC-IC2
Calibration: 4351002

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	4L35114-CAL1	SEQ-CAL1_Integration	12/16/14 09:47
Cal Standard	4L35114-CAL2	SEQ-CAL2_Integration	12/16/14 10:05
Cal Standard	4L35114-CAL3	SEQ-CAL3_Integration	12/16/14 10:23
Cal Standard	4L35114-CAL4	SEQ-CAL4_Integration	12/16/14 10:41
Cal Standard	4L35114-CAL5	SEQ-CAL5_Integration	12/16/14 10:59
Cal Standard	4L35114-CAL6	SEQ-CAL6_Integration	12/16/14 11:16
Cal Standard	4L35114-CAL7	SEQ-CAL7_Integration	12/16/14 11:34
Cal Standard	4L35114-CAL8	SEQ-CAL8_Integration	12/16/14 11:52
Initial Cal Check	4L35114-ICV1	SEQ-ICV1_Integration	12/16/14 13:43

ANALYSIS SEQUENCE SUMMARY

SW9056A

Laboratory: Empirical Laboratories, LLC
SDG: 1501124
Client: CB&I
Project: Radford AAP
Sequence: 5B03605
Instrument: WC-IC2
Calibration: 4351002

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	5B03605-CCV1	SEQ-CCV1_Integration	01/29/15 12:13
Calibration Blank	5B03605-CCB1	SEQ-CCB1_Integration	01/29/15 12:31
Instrument RL Check	5B03605-CRL1	SEQ-CRL1_Integration	01/29/15 12:48
Blank	5A29009-BLK1	5A29009-BLK1_Integration	01/29/15 13:42
LCS	5A29009-BS1	5A29009-BS1_Integration	01/29/15 14:00
48MW2	1501124-03	1501124-03_Integration	01/29/15 14:18
49MW01	1501124-04	1501124-04_Integration	01/29/15 14:35
48MW1	1501124-05	1501124-05_Integration	01/29/15 14:53
Calibration Check	5B03605-CCV2	SEQ-CCV2_Integration	01/29/15 15:11
Calibration Blank	5B03605-CCB2	SEQ-CCB2_Integration	01/29/15 15:29

ANALYSIS SEQUENCE SUMMARY

SW9060A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501124
Client:	CB&I	Project:	Radford AAP
Sequence:	5B04116	Instrument:	WC-TOC1
Calibration:	5023004		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	5B04116-CCV1	02-05-15Q	02/05/15 16:07
Calibration Blank	5B04116-CCB1	02-05-15Q	02/05/15 16:29
Blank	5B05019-BLK1	02-05-15Q	02/05/15 16:51
LCS	5B05019-BS1	02-05-15Q	02/05/15 17:22
48MW2	1501124-03	02-05-15Q	02/05/15 21:03
49MW01	1501124-04	02-05-15Q	02/05/15 21:26
48MW1	1501124-05	02-05-15Q	02/05/15 21:48
Calibration Check	5B04116-CCV2	02-05-15Q	02/05/15 22:23
Calibration Blank	5B04116-CCB2	02-05-15Q	02/05/15 22:47

INITIAL CALIBRATION DATA

SW9056A

Laboratory: Empirical Laboratories, LLC
SDG: 1501124
Client: CB&I
Project: Radford AAP
Calibration: 4351002
Instrument: WC-IC2
Matrix: Water
Calibration Dates: 12/16/14 9:47 12/16/14 11:52

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Bromide	0.126	0.1085905	0.252	0.1108726	0.63	0.1180673	1.26	0.1237546	6.3	0.1299016	12.6	0.1302967
Chloride	0.5	0.3003194	1	0.2984897	2.5	0.3053954	5	0.3078736	25	0.3040147	50	0.3022272
Fluoride	0.05	0.489534	0.1	0.493946	0.25	0.5097388	0.5	0.5311596	2.5	0.5045864	5	0.4840282
Sulfate as SO4	0.5	0.209077	1	0.2078992	2.5	0.2136142	5	0.2170974	25	0.2157216	50	0.2141794
Nitrate as N	0.05	0.674878	0.1	0.666766	0.25	0.6984688	0.5	0.7243688	2.5	0.7440152	5	0.7440886
Nitrite as N	0.05	0.656516	0.1	0.664483	0.25	0.695526	0.5	0.7044518	2.5	0.6747124	5	0.6583138

INITIAL CALIBRATION DATA (Continued)

SW9056A

Laboratory: Empirical Laboratories, LLC
SDG: 1501124
Client: CB&I
Project: Radford AAP
Calibration: 4351002
Instrument: WC-IC2
Matrix: Water
Calibration Dates: 12/16/14 9:47 12/16/14 11:52

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Bromide	31.5	0.1283104	63	~~0.110431~~								
Chloride	125	0.301513	250	0.3010025								
Fluoride	12.5	~~0.4445155~~	25	~~0.4043972~~								
Sulfate as SO4	125	0.2117641	250	0.1998974								
Nitrate as N	12.5	0.7445325	25	0.7354732								
Nitrite as N	12.5	~~0.6231667~~	25	~~0.5849232~~								

INITIAL CALIBRATION DATA (Continued)

SW9056A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501124
Client:	CB&I	Project:	Radford AAP
Calibration:	4351002	Instrument:	WC-IC2
Matrix:	Water	Calibration Dates:	12/16/14 9:47 12/16/14 11:52

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Bromide	0.1213991	7.449655	8.731428	0.6244358	0.9999458		0.995	
Chloride	0.3026044	0.9960588	4.981625	0.3698484	0.9999975		0.995	
Fluoride	0.5021655	3.402805	3.305333	0.1072065	0.9994431		0.995	
Sulfate as SO4	0.2111563	2.614724	9.39875	2.737571	0.9990053		0.995	
Nitrate as N	0.7165739	4.493295	10.39125	1.665896	0.9999603		0.995	
Nitrite as N	0.6756672	2.972466	6.139833	5.826773E-02	0.9997826		0.995	

Per current DoD QSM requirements, effective 03/17/2014, Empirical has updated the linear calibration coefficient requirements to reflect a limit of 0.990 for "r2" rather than the previously reported limit of 0.995 for "r". The change in assessment criteria is consistent with regulatory requirements.

INITIAL CALIBRATION DATA

SW9060A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501124	
Client:	CB&I	Project:	Radford AAP	
Calibration:	5023004	Instrument:	WC-TOC1	
Matrix:	Water	Calibration Dates:	1/19/15 11:53	1/19/15 14:37

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Total Organic Carbon	0	0	1	11.73	2.5	10.716	5	10.326	10	10.82	25	10.928

INITIAL CALIBRATION DATA (Continued)

SW9060A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501124	
Client:	CB&I	Project:	Radford AAP	
Calibration:	5023004	Instrument:	WC-TOC1	
Matrix:	Water	Calibration Dates:	1/19/15 11:53	1/19/15 14:37

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Total Organic Carbon	50	11.194	100	11.59								

INITIAL CALIBRATION DATA (Continued)

SW9060A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501124	
Client:	CB&I	Project:	Radford AAP	
Calibration:	5023004	Instrument:	WC-TOC1	
Matrix:	Water	Calibration Dates:	1/19/15 11:53	1/19/15 14:37

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Total Organic Carbon	9.663	40.68495			0.9996185		0.99	

Per current DoD QSM requirements, effective 03/17/2014, Empirical has updated the linear calibration coefficient requirements to reflect a limit of 0.990 for "r2" rather than the previously reported limit of 0.995 for "r". The change in assessment criteria is consistent with regulatory requirements.

HOLDING TIME SUMMARY

SW9056A

Laboratory: Empirical Laboratories, LLC SDG: 1501124

Client: CB&I Project: Radford AAP

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
48MW2	01/28/15 12:00	01/29/15 09:45	01/29/15 10:40	N/A	28.00	01/29/15 14:18	1.14	28.00	
48MW2	01/28/15 12:00	01/29/15 09:45	01/29/15 10:40	N/A	2.00	01/29/15 14:18	1.14	2.00	
49MW01	01/28/15 13:20	01/29/15 09:45	01/29/15 10:40	N/A	28.00	01/29/15 14:35	1.09	28.00	
49MW01	01/28/15 13:20	01/29/15 09:45	01/29/15 10:40	N/A	2.00	01/29/15 14:35	1.09	2.00	
48MW1	01/28/15 14:30	01/29/15 09:45	01/29/15 10:40	N/A	28.00	01/29/15 14:53	1.06	28.00	
48MW1	01/28/15 14:30	01/29/15 09:45	01/29/15 10:40	N/A	2.00	01/29/15 14:53	1.06	2.00	

HOLDING TIME SUMMARY

SW9060A

Laboratory: Empirical Laboratories, LLC SDG: 1501124

Client: CB&I Project: Radford AAP

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
48MW2	01/28/15 12:00	01/29/15 09:45	02/05/15 14:56	N/A	28.00	02/05/15 21:03	8.42	28.00	
49MW01	01/28/15 13:20	01/29/15 09:45	02/05/15 14:56	N/A	28.00	02/05/15 21:26	8.38	28.00	
48MW1	01/28/15 14:30	01/29/15 09:45	02/05/15 14:56	N/A	28.00	02/05/15 21:48	8.35	28.00	

Data for Wet Chemistry Supporting Raw Data / Logs

19 72
M
12-D-1

Sequence Overview

Sequence Details

Name:	**121614**	*Created On:*	**26/Mar/14 13:54:45**
Directory:	**Instrument Data_ICS-2100\2014\Dec2014**	*Created By:*	**Thermo Elctron NA**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**18/Dec/14 11:08:29**
No. of Injections:	**11**	*Updated By:*	**NSH-IONC2**

Injection Details

No.	Injection Name	Position	Type	Level	Inject Time	Status
1	blank	1	Unknown		16/Dec/14 09:11:51	Finished
2	blank	2	Unknown		16/Dec/14 09:29:57	Finished
3	SEQ-CAL1 141.0464	3	Calibration Standard	01	16/Dec/14 09:47:47	Finished
4	SEQ-CAL2 141.0465	4	Calibration Standard	02	16/Dec/14 10:05:37	Finished
5	SEQ-CAL3 141.0466	5	Calibration Standard	03	16/Dec/14 10:23:27	Finished
6	SEQ-CAL4 141.0467	6	Calibration Standard	04	16/Dec/14 10:41:17	Finished
7	SEQ-CAL5 141.0468	7	Calibration Standard	05	16/Dec/14 10:59:07	Finished
8	SEQ-CAL6 141.0469	8	Calibration Standard	06	16/Dec/14 11:16:58	Finished
9	SEQ-CAL7 141.0470	9	Calibration Standard	07	16/Dec/14 11:34:48	Finished
10	SEQ-CAL8 141.0471	10	Calibration Standard	08	16/Dec/14 11:52:39	Finished
11	blank	11	Unknown		16/Dec/14 12:10:29	Finished

Sequence Overview

Sequence Details

Name:	**121614A**	*Created On:*	**26/Mar/14 13:54:45**
Directory:	**Instrument Data_ICS-2100\2014\Dec2014**	*Created By:*	**Thermo Elctron NA**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**18/Dec/14 11:10:58**
No. of Injections:	**20**	*Updated By:*	**NSH-IONC2**

Injection Details

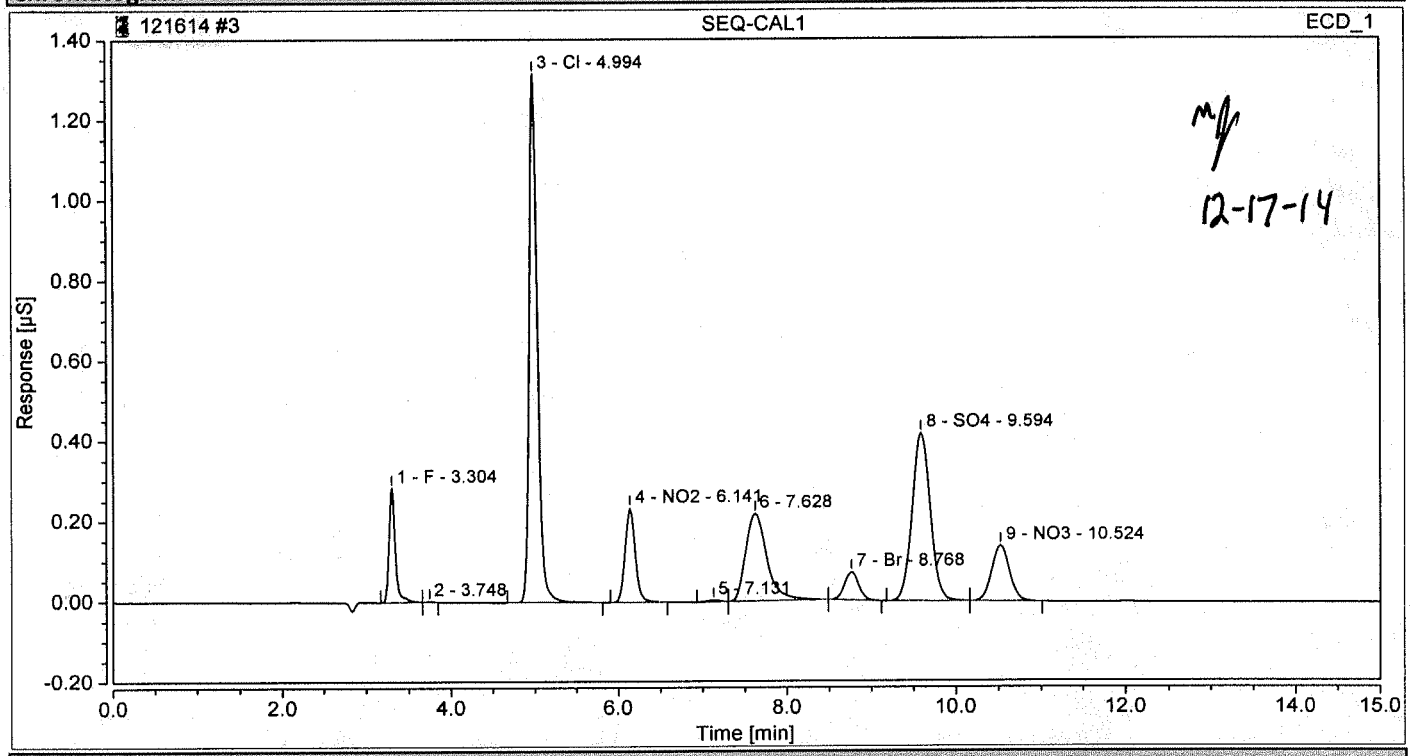
No.	Injection Name	Position	Type	Level	Inject Time	Status
1	BLANK	1	Unknown		16/Dec/14 13:01:07	Finished
2	BLANK	2	Unknown		16/Dec/14 13:20:03	Finished
3	SEQ-ICV1 4L0395	3	Unknown		16/Dec/14 13:43:39	Finished
4	SEQ-CCV1	4	Unknown		16/Dec/14 14:09:16	Finished
5	SEQ-CCB1	5	Unknown		16/Dec/14 14:27:15	Finished
6	SEQ-CRL1	6	Unknown		16/Dec/14 14:45:05	Finished
7	SEQ-CRL2	7	Unknown		16/Dec/14 15:02:55	Finished
8	SEQ-CRL3	8	Unknown		16/Dec/14 15:20:45	Finished
9	4L16013-BLK1	9	Unknown		16/Dec/14 15:38:35	Finished
10	4L16013-BS1	10	Unknown		16/Dec/14 15:56:25	Finished
11	1412171-01	11	Unknown		16/Dec/14 16:14:15	Finished
12	1412171-02	12	Unknown		16/Dec/14 16:32:06	Finished
13	1412172-01@50X	13	Unknown		16/Dec/14 16:52:13	Finished
14	1412019-03RE1	14	Unknown		16/Dec/14 17:10:05	Finished
15	1412019-04RE1	15	Unknown		16/Dec/14 17:27:55	Finished
16	1412019-07RE1	16	Unknown		16/Dec/14 17:45:45	Finished
17	1412019-08RE1	17	Unknown		16/Dec/14 18:03:36	Finished
18	SEQ-CCV2	18	Unknown		16/Dec/14 18:21:26	Finished
19	SEQ-CCB2	19	Unknown		16/Dec/14 18:39:16	Finished
20	BLANK	20	Unknown		16/Dec/14 18:57:07	Finished

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL1**	*Run Time (min):*	**15.00**
Vial Number:	**3**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**01**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 09:47**	*Sample Weight:*	**1.0000**

Chromatogram



MJ 12-17-14

Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.304	0.0244767	0.284	5.78	10.59	0.0501
2		3.748	0.0001516	0.002	0.04	0.07	n.a.
3	Cl	4.994	0.1501597	1.316	35.43	49.03	0.4986
4	NO2	6.141	0.0328258	0.234	7.75	8.72	0.0496
5		7.131	0.0007163	0.004	0.17	0.16	n.a.
6		7.628	0.0635233	0.218	14.99	8.10	n.a.
7	Br	8.768	0.0136824	0.070	3.23	2.59	0.1064
8	SO4	9.594	0.1045385	0.418	24.67	15.58	0.5156
9	NO3	10.524	0.0337439	0.139	7.96	5.16	0.0458
Total:			**0.424**	**2.685**	**100.00**	**100.00**	

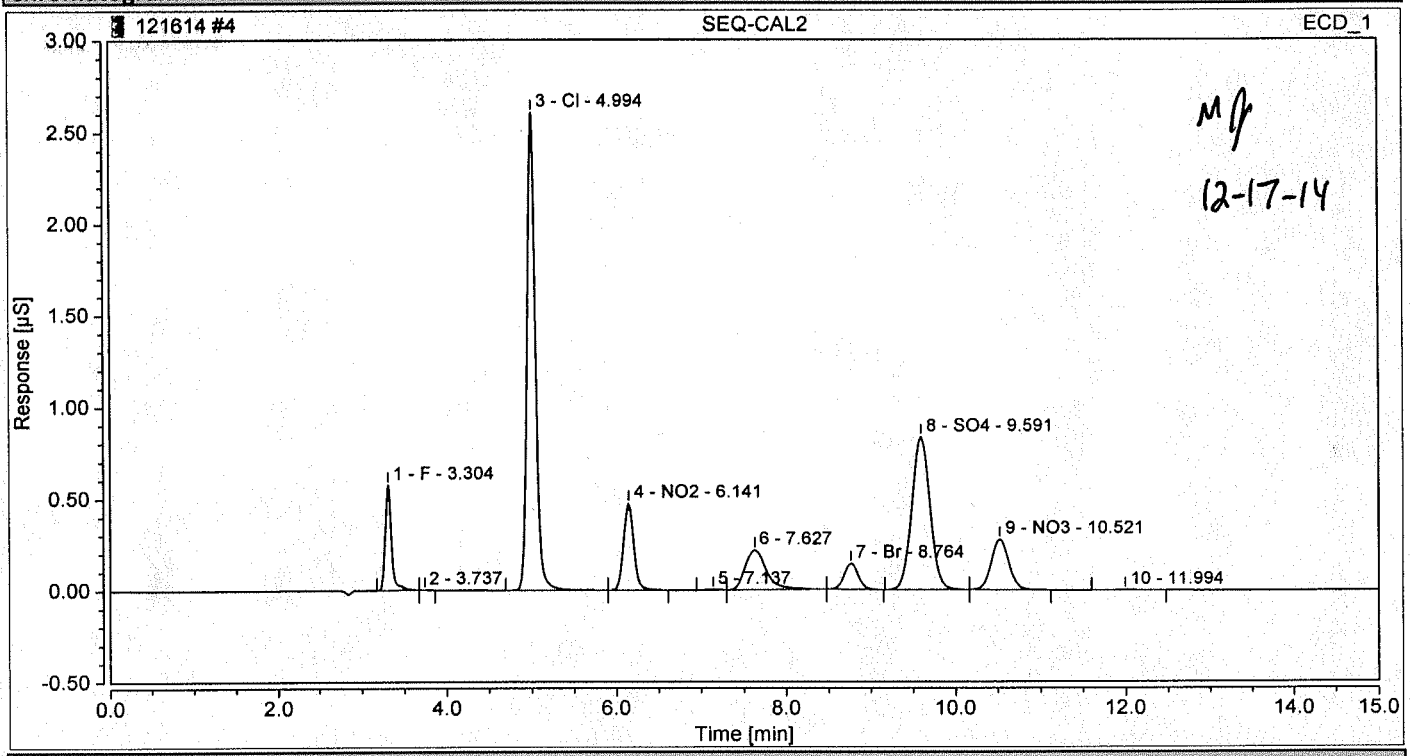
J.H. 12.18.14

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL2**	*Run Time (min):*	**15.00**
Vial Number:	**4**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**02**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 10:05**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.304	0.0493946	0.575	6.32	11.21	0.1011
2		3.737	0.0001163	0.001	0.01	0.02	n.a.
3	Cl	4.994	0.2984897	2.607	38.21	50.84	0.9911
4	NO2	6.141	0.0664483	0.474	8.51	9.24	0.1004
5		7.137	0.0005280	0.003	0.07	0.06	n.a.
6		7.627	0.0631616	0.216	8.08	4.22	n.a.
7	Br	8.764	0.0279399	0.142	3.58	2.77	0.2172
8	SO4	9.591	0.2078992	0.833	26.61	16.24	1.0254
9	NO3	10.521	0.0666766	0.275	8.53	5.37	0.0904
10		11.994	0.0005919	0.002	0.08	0.03	n.a.
Total:			**0.781**	**5.128**	**100.00**	**100.00**	

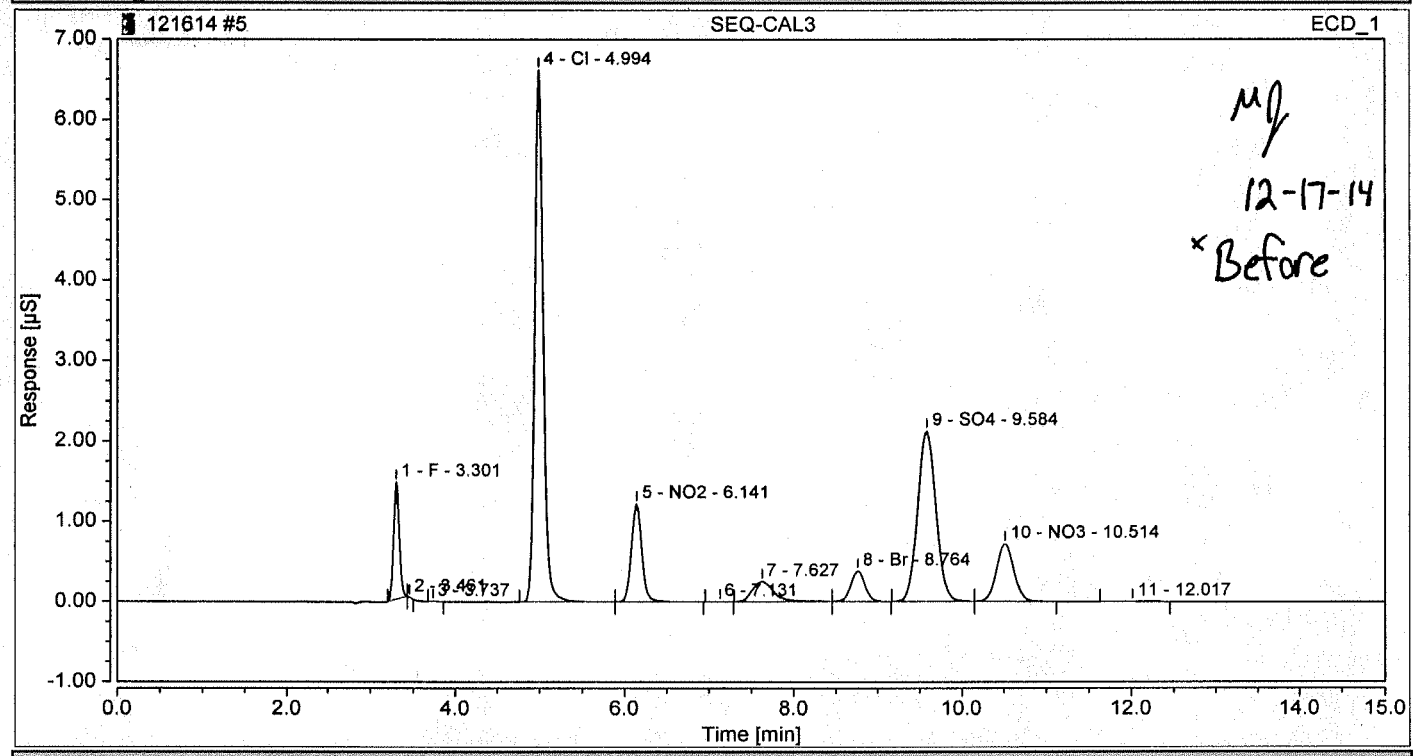
J.H. 12.18.14

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL3**	*Run Time (min):*	**15.00**
Vial Number:	**5**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**03**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 10:23**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

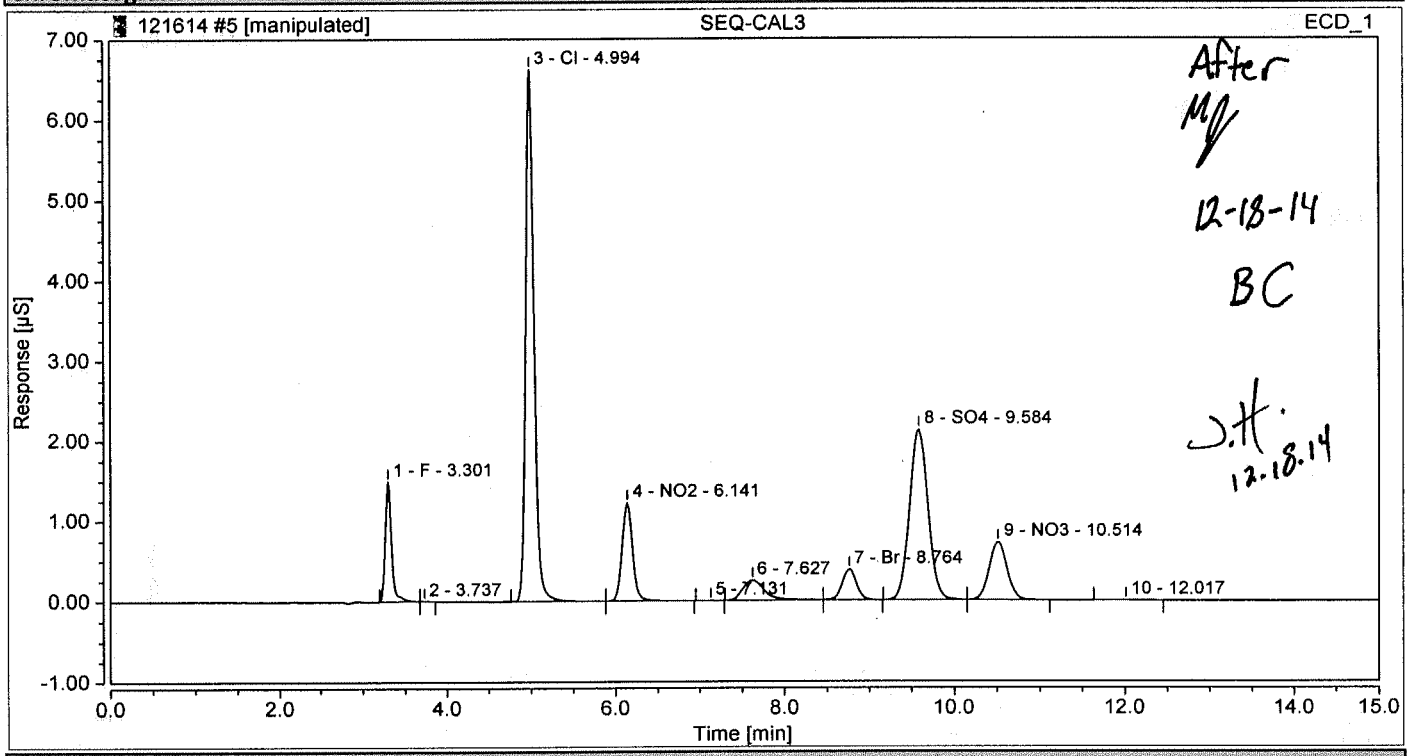
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.301	0.1159286	1.464	6.06	11.44	0.2373
2		3.461	0.0001110	0.003	0.01	0.02	n.a.
3		3.737	0.0001562	0.002	0.01	0.01	n.a.
4	Cl	4.994	0.7634884	6.618	39.92	51.74	2.5351
5	NO2	6.141	0.1738815	1.224	9.09	9.57	0.2627
6		7.131	0.0004057	0.003	0.02	0.02	n.a.
7		7.627	0.0743022	0.249	3.89	1.95	n.a.
8	Br	8.764	0.0743824	0.381	3.89	2.98	0.5783
9	SO4	9.584	0.5340354	2.127	27.93	16.63	2.6340
10	NO3	10.514	0.1746172	0.719	9.13	5.62	0.2368
11		12.017	0.0010489	0.003	0.05	0.02	n.a.
Total:			**1.912**	**12.791**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL3**	*Run Time (min):*	**15.00**
Vial Number:	**5**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**03**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 10:23**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

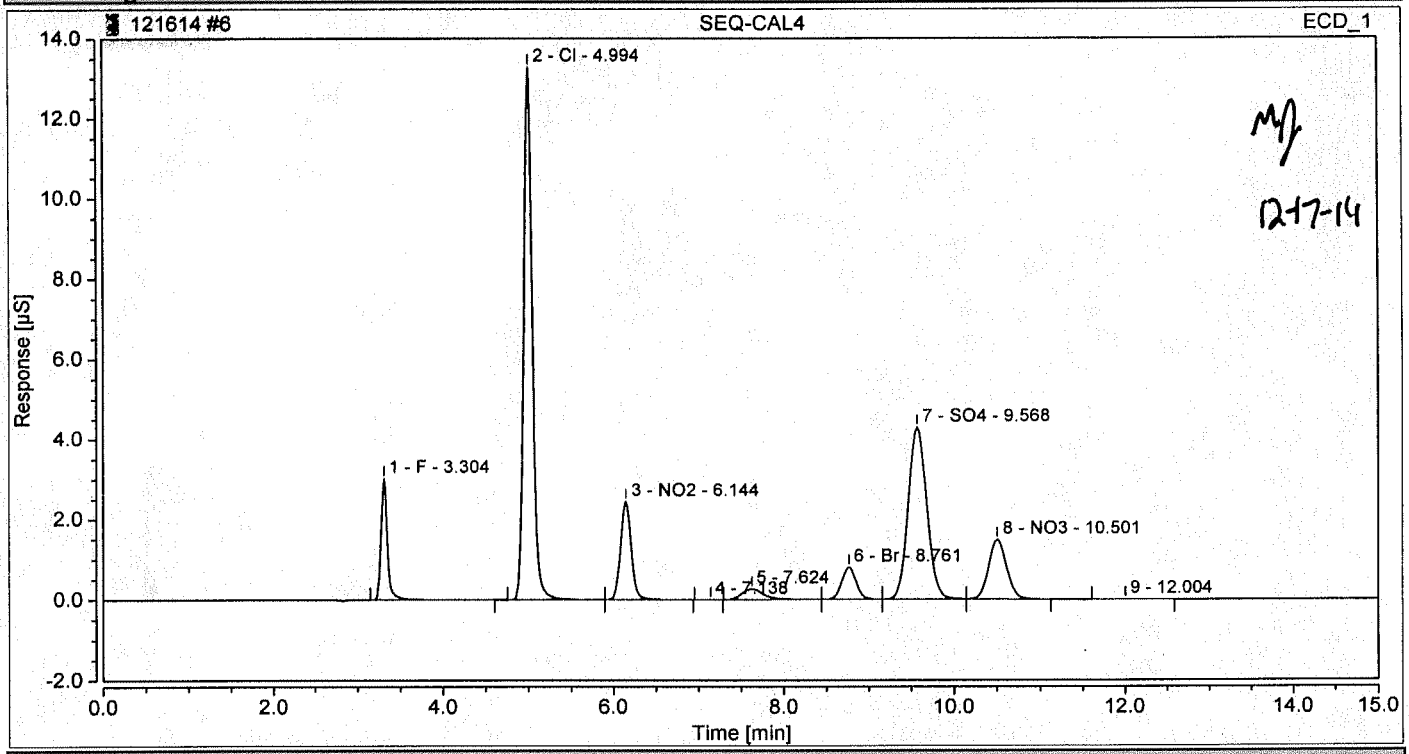
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.301	0.1274347	1.492	6.62	11.64	0.2609
2		3.737	0.0001377	0.000	0.01	0.00	n.a.
3	Cl	4.994	0.7634884	6.618	39.69	51.64	2.5351
4	NO2	6.141	0.1738815	1.224	9.04	9.55	0.2627
5		7.131	0.0004057	0.003	0.02	0.02	n.a.
6		7.627	0.0743022	0.249	3.86	1.95	n.a.
7	Br	8.764	0.0743824	0.381	3.87	2.97	0.5783
8	SO4	9.584	0.5340354	2.127	27.76	16.60	2.6340
9	NO3	10.514	0.1746172	0.719	9.08	5.61	0.2368
10		12.017	0.0010489	0.003	0.05	0.02	n.a.
Total:			**1.924**	**12.815**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL4**	*Run Time (min):*	**15.00**
Vial Number:	**6**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**04**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 10:41**	*Sample Weight:*	**1.0000**

Chromatogram



MJ 12-17-14

Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.304	0.2655798	3.025	6.91	11.83	0.5437
2	Cl	4.994	1.5393683	13.281	40.06	51.93	5.1114
3	NO2	6.144	0.3522259	2.441	9.17	9.54	0.5321
4		7.138	0.0004201	0.003	0.01	0.01	n.a.
5		7.624	0.0793942	0.264	2.07	1.03	n.a.
6	Br	8.761	0.1559308	0.798	4.06	3.12	1.2124
7	SO4	9.568	1.0854872	4.281	28.25	16.74	5.3539
8	NO3	10.501	0.3621844	1.479	9.43	5.78	0.4911
9		12.004	0.0017031	0.005	0.04	0.02	n.a.
Total:			**3.842**	**25.577**	**100.00**	**100.00**	

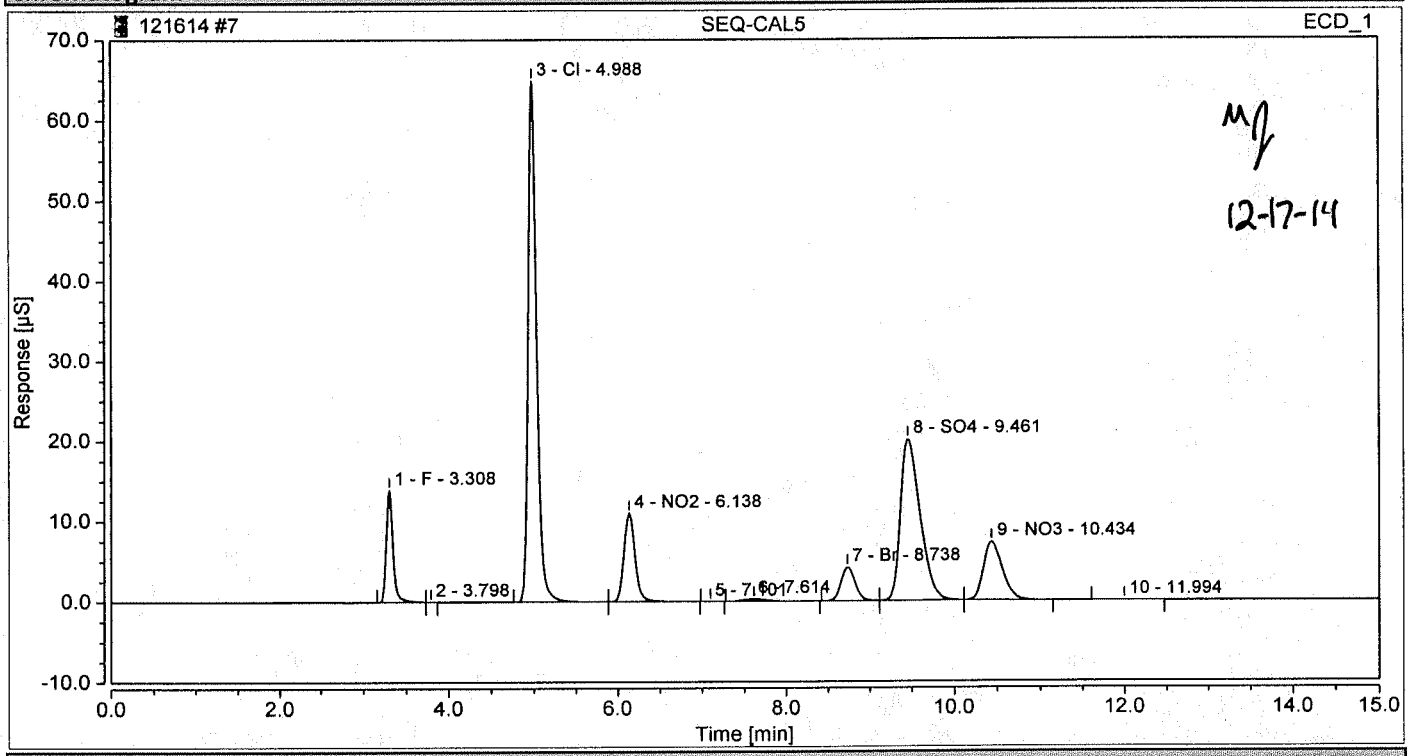
12.18.14

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL5**	*Run Time (min):*	**15.00**
Vial Number:	**7**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**05**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 10:59**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.308	1.2614660	13.924	6.74	11.45	2.5827
2		3.798	0.0003664	0.005	0.00	0.00	n.a.
3	Cl	4.988	7.6003656	64.873	40.62	53.35	25.2366
4	NO2	6.138	1.6867810	10.981	9.01	9.03	2.5480
5		7.101	0.0003045	0.002	0.00	0.00	n.a.
6		7.614	0.0861981	0.286	0.46	0.24	n.a.
7	Br	8.738	0.8183803	4.177	4.37	3.43	6.3629
8	SO4	9.461	5.3930390	20.086	28.82	16.52	26.6000
9	NO3	10.434	1.8600380	7.249	9.94	5.96	2.5220
10		11.994	0.0057436	0.018	0.03	0.01	n.a.
Total:			**18.713**	**121.601**	**100.00**	**100.00**	

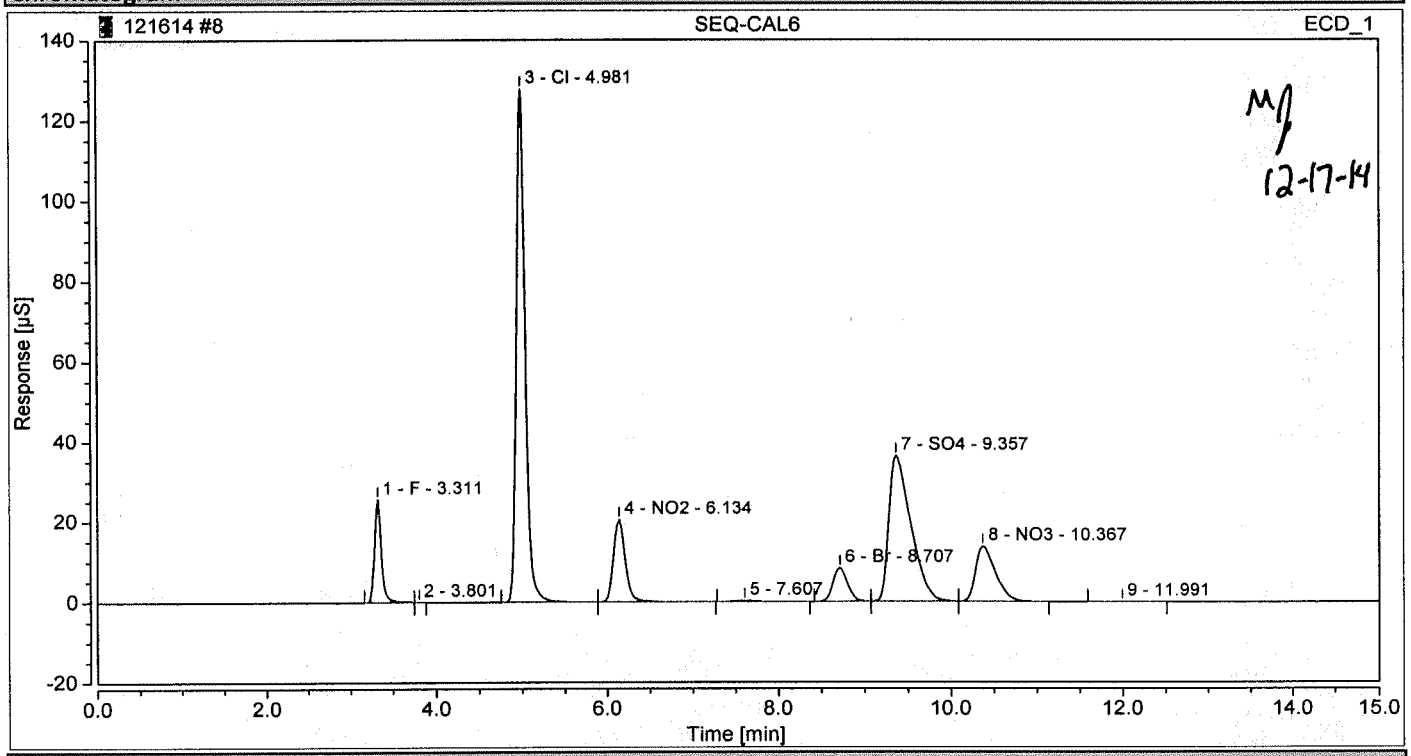
J.H. 12.18.14

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL6**	*Run Time (min):*	**15.00**
Vial Number:	**8**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**06**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 11:16**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.311	2.4201409	25.644	6.54	11.02	4.9549
2		3.801	0.0008154	0.012	0.00	0.01	n.a.
3	Cl	4.981	15.1113592	127.719	40.86	54.89	50.1765
4	NO2	6.134	3.2915686	20.506	8.90	8.81	4.9722
5		7.607	0.0816563	0.277	0.22	0.12	n.a.
6	Br	8.707	1.6417382	8.387	4.44	3.60	12.7645
7	SO4	9.357	10.7089752	36.371	28.95	15.63	52.8197
8	NO3	10.367	3.7204432	13.732	10.06	5.90	5.0444
9		11.991	0.0099274	0.030	0.03	0.01	n.a.
Total:			**36.987**	**232.678**	**100.00**	**100.00**	

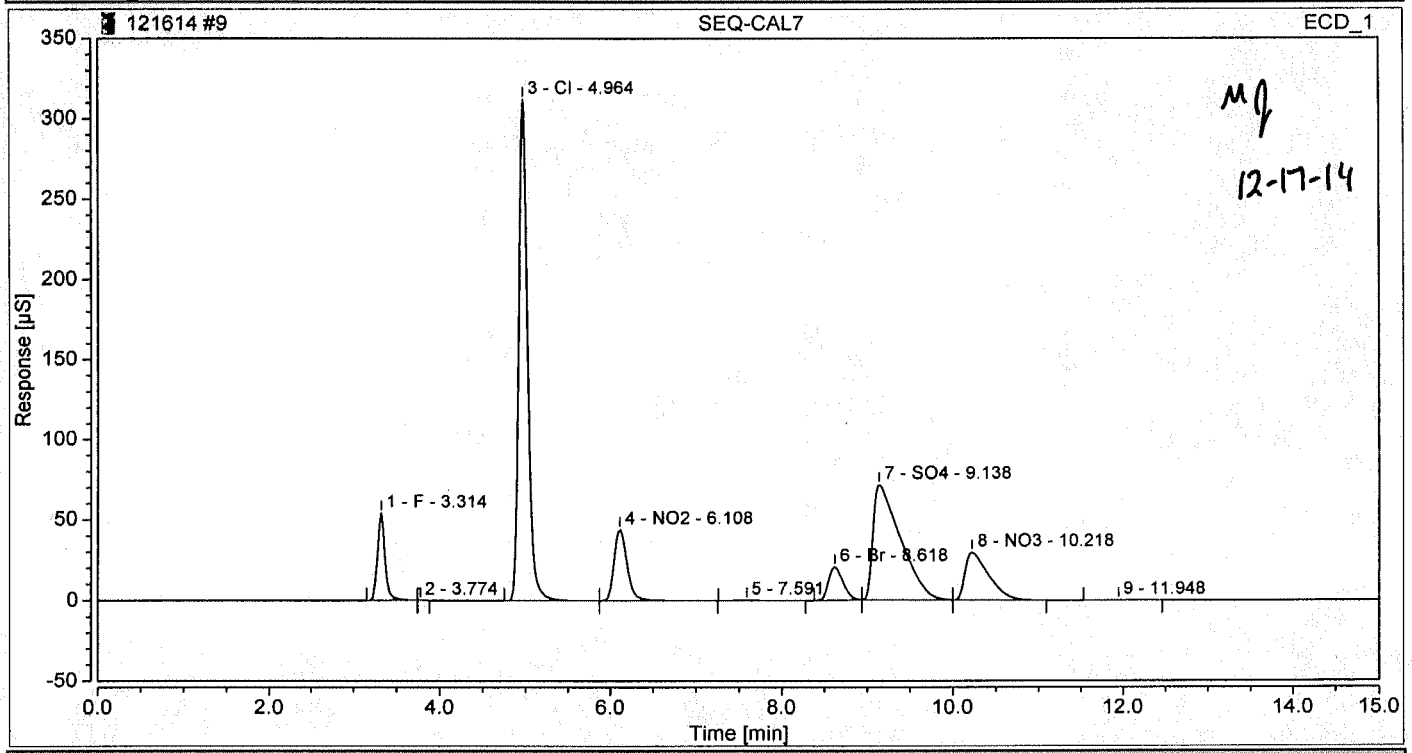
JH. 12.18.14

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL7**	*Run Time (min):*	**15.00**
Vial Number:	**9**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**07**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 11:34**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount	
1	F	3.314	5.5564427	54.049	6.11	10.16	11.3760	NOT USED
2		3.774	0.0026159	0.027	0.00	0.00	n.a.	
3	Cl	4.964	37.6891170	311.985	41.42	58.64	125.1449	
4	NO2	6.108	7.7895833	44.024	8.56	8.27	11.7667	NOT USED
5		7.591	0.1035898	0.347	0.11	0.07	n.a.	
6	Br	8.618	4.0417792	20.645	4.44	3.88	31.4249	
7	SO4	9.138	26.4705091	71.371	29.09	13.42	130.5600	
8	NO3	10.218	9.3066560	29.506	10.23	5.55	12.6185	
9		11.948	0.0233292	0.069	0.03	0.01	n.a.	
Total:			**90.984**	**532.021**	**100.00**	**100.00**		

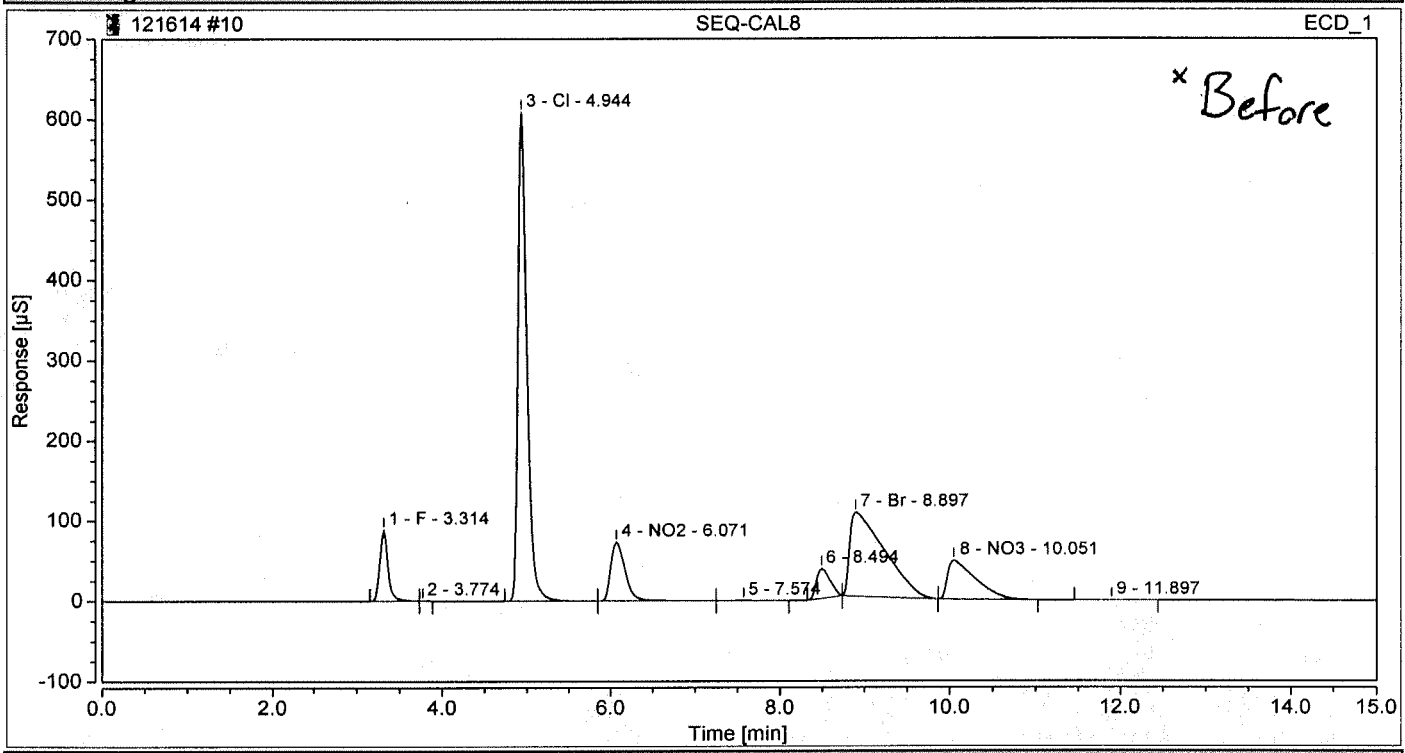
J.H. 12.18.14

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL8**	*Run Time (min):*	**16.00**
Vial Number:	**10**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**08**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 11:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

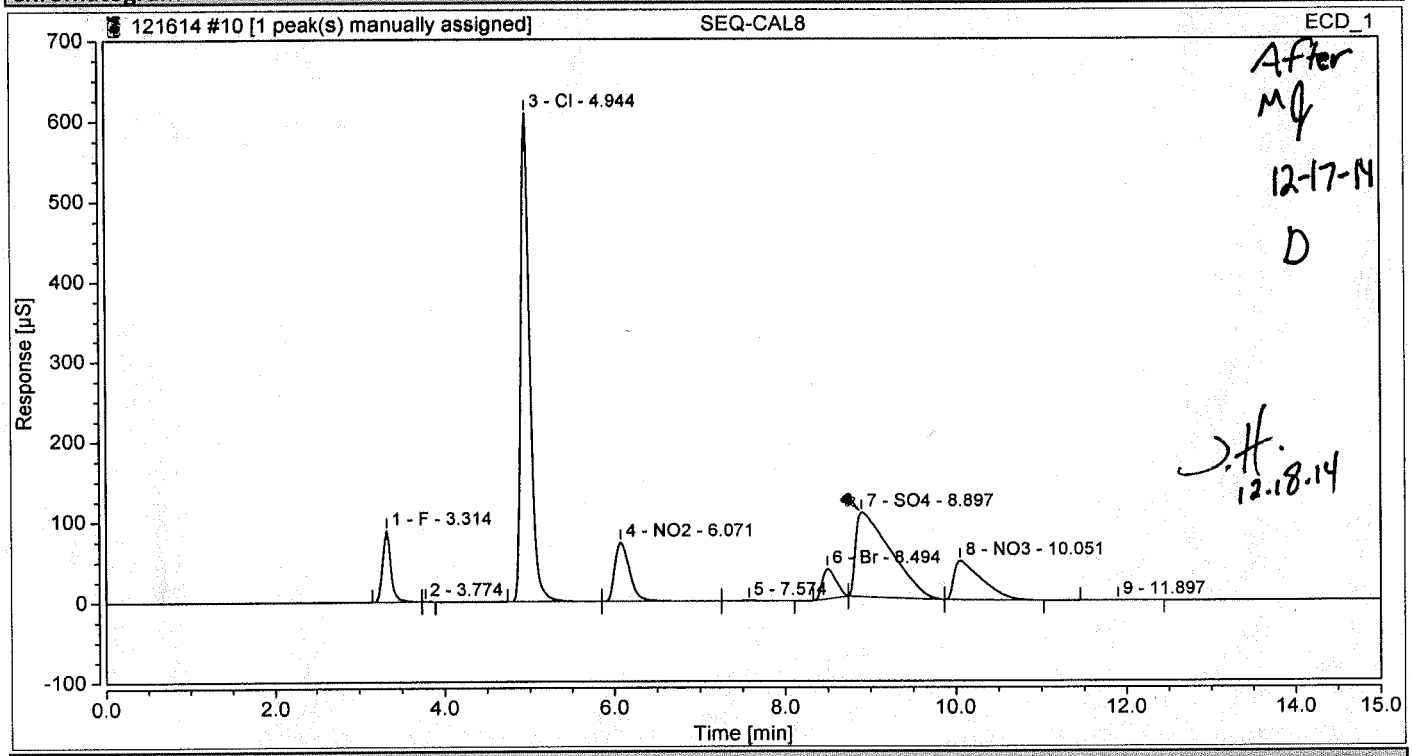
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.314	10.1099268	88.941	5.76	9.24	20.6987
2		3.774	0.0075837	0.079	0.00	0.01	n.a.
3	Cl	4.944	75.2506308	608.833	42.88	63.23	249.8661
4	NO2	6.071	14.6230809	73.355	8.33	7.62	22.0892
5		7.574	0.1273881	0.427	0.07	0.04	n.a.
6		8.494	6.9571532	37.385	3.96	3.88	n.a.
7	Br	8.897	49.9743575	105.092	28.48	10.92	388.5514
n.a.	SO4	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
8	NO3	10.051	18.3868335	48.578	10.48	5.05	24.9300
9		11.897	0.0465005	0.128	0.03	0.01	n.a.
Total:			**175.483**	**962.819**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL8**	*Run Time (min):*	**15.00**
Vial Number:	**10**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**08**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 11:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

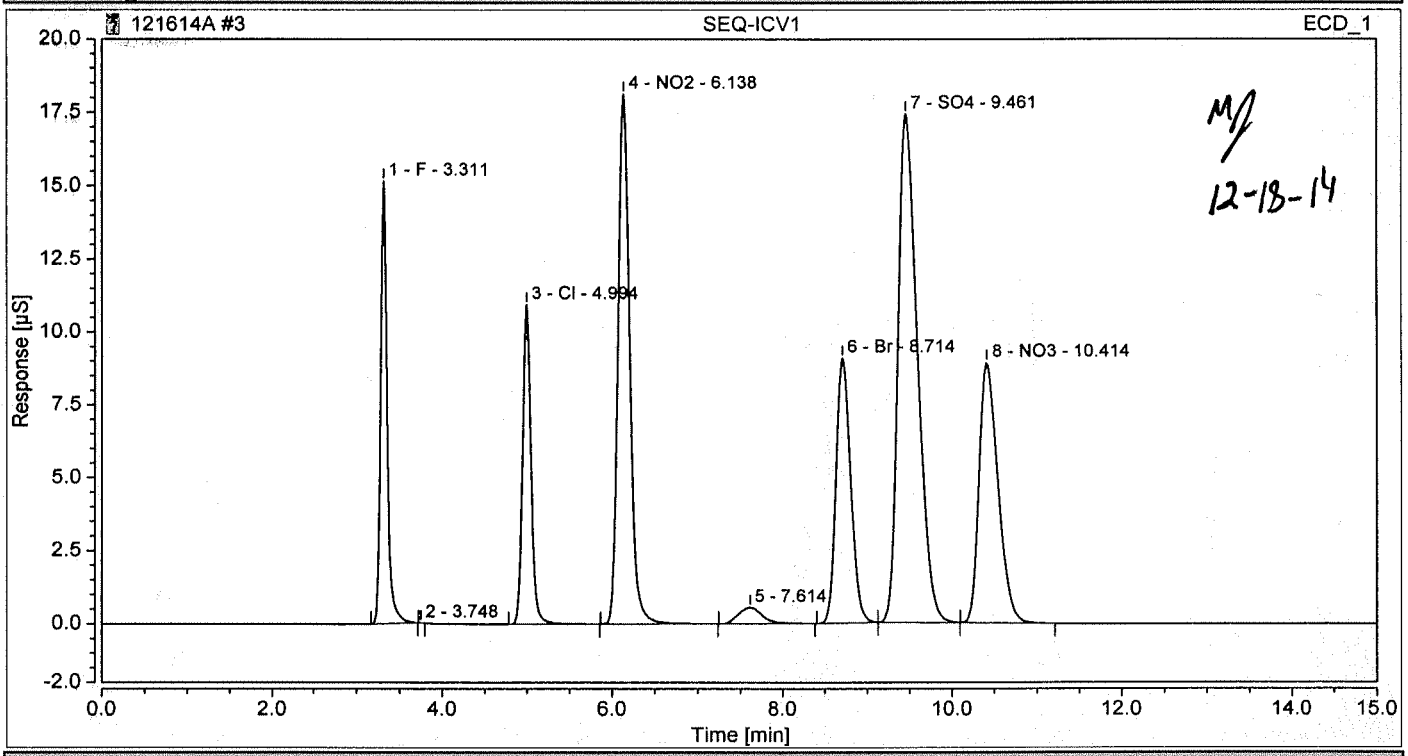
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount	
1	F	3.314	10.1099268	88.941	5.76	9.24	20.6987	NOT USED
2		3.774	0.0075837	0.079	0.00	0.01	n.a.	
3	Cl	4.944	75.2506308	608.833	42.88	63.23	249.8661	
4	NO2	6.071	14.6230809	73.355	8.33	7.62	22.0892	NOT USED
5		7.574	0.1273881	0.427	0.07	0.04	n.a.	
6	Br	8.494	6.9571532	37.385	3.96	3.88	54.0920	NOT USED
7	SO4	8.897	49.9743575	105.092	28.48	10.92	246.4875	
8	NO3	10.051	18.3868335	48.578	10.48	5.05	24.9300	
9		11.897	0.0465005	0.128	0.03	0.01	n.a.	
Total:			**175.483**	**962.819**	**100.00**	**100.00**		

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-ICV1**	*Run Time (min):*	**15.00**
Vial Number:	**3**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 13:43**	*Sample Weight:*	**1.0000**

Chromatogram



MJ 12-18-14

Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.311	1.3777375	15.148	9.54	18.90	2.8202
2		3.748	0.0000732	0.002	0.00	0.00	n.a.
3	Cl	4.994	1.2644145	10.943	8.76	13.65	4.1984
4	NO2	6.138	2.8686200	18.113	19.87	22.60	4.3333
5		7.614	0.1824815	0.552	1.26	0.69	n.a.
6	Br	8.714	1.8130693	9.078	12.56	11.33	14.0966
7	SO4	9.461	4.6157847	17.395	31.97	21.70	22.7663
8	NO3	10.414	2.3168384	8.921	16.05	11.13	3.1413
Total:			**14.439**	**80.154**	**100.00**	**100.00**	

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Sequence Overview

Sequence Details

Name:	**012915**	*Created On:*	**26/Mar/14 13:54:45**
Directory:	**Instrument Data_ICS-2100\2015\Jan2015**	*Created By:*	**Thermo Elctron NA**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**29/Jan/15 16:04:01**
No. of Injections:	**14**	*Updated By:*	**NSH-IONC2**

Injection Details

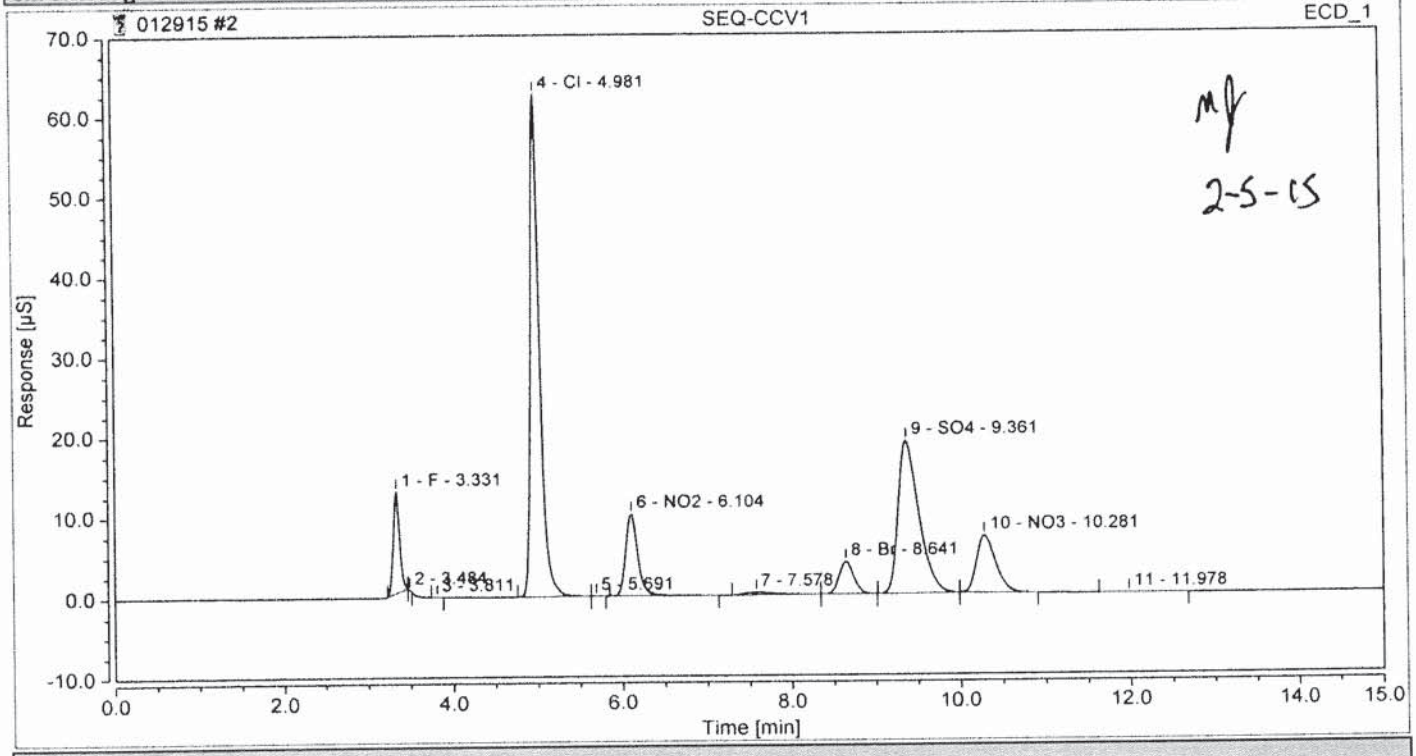
No.	Injection Name	Position	Type	Level	Inject Time	Status
1	BLANK	1	Unknown		29/Jan/15 11:55:27	Finished
2	SEQ-CCV1	2	Unknown		29/Jan/15 12:13:13	Finished
3	SEQ-CCB1	3	Unknown		29/Jan/15 12:31:03	Finished
4	SEQ-CRL1	4	Unknown		29/Jan/15 12:48:53	Finished
5	SEQ-CRL2	5	Unknown		29/Jan/15 13:06:43	Finished
6	SEQ-CRL3	6	Unknown		29/Jan/15 13:24:34	Finished
7	5A29009-BLK1	7	Unknown		29/Jan/15 13:42:24	Finished
8	5A29009-BS1	8	Unknown		29/Jan/15 14:00:14	Finished
9	1501124-03	9	Unknown		29/Jan/15 14:18:04	Finished
10	1501124-04	10	Unknown		29/Jan/15 14:35:54	Finished
11	1501124-05	11	Unknown		29/Jan/15 14:53:44	Finished
12	SEQ-CCV2	12	Unknown		29/Jan/15 15:11:35	Finished
13	SEQ-CCB2	13	Unknown		29/Jan/15 15:29:25	Finished
14	BLANK	14	Unknown		29/Jan/15 15:47:16	Finished

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CCV1**	*Run Time (min):*	**15.00**
Vial Number:	**2**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Jan/15 12:13**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.331	1.1010870	12.628	5.85	10.89	2.2539
2		3.484	0.0004369	0.015	0.00	0.01	n.a.
3		3.811	0.0002559	0.004	0.00	0.00	n.a.
4	Cl	4.981	7.8662466	62.664	41.79	54.04	26.1195
5		5.691	0.0000771	0.001	0.00	0.00	n.a.
6	NO2	6.104	1.6555978	10.170	8.79	8.77	2.5009
7		7.578	0.1377949	0.340	0.73	0.29	n.a.
8	Br	8.641	0.8095472	4.035	4.30	3.48	6.2942
9	SO4	9.361	5.3938505	18.983	28.65	16.37	26.6040
10	NO3	10.281	1.8588519	7.108	9.87	6.13	2.5203
11		11.978	0.0016341	0.003	0.01	0.00	n.a.
Total:			**18.825**	**115.952**	**100.00**	**100.00**	

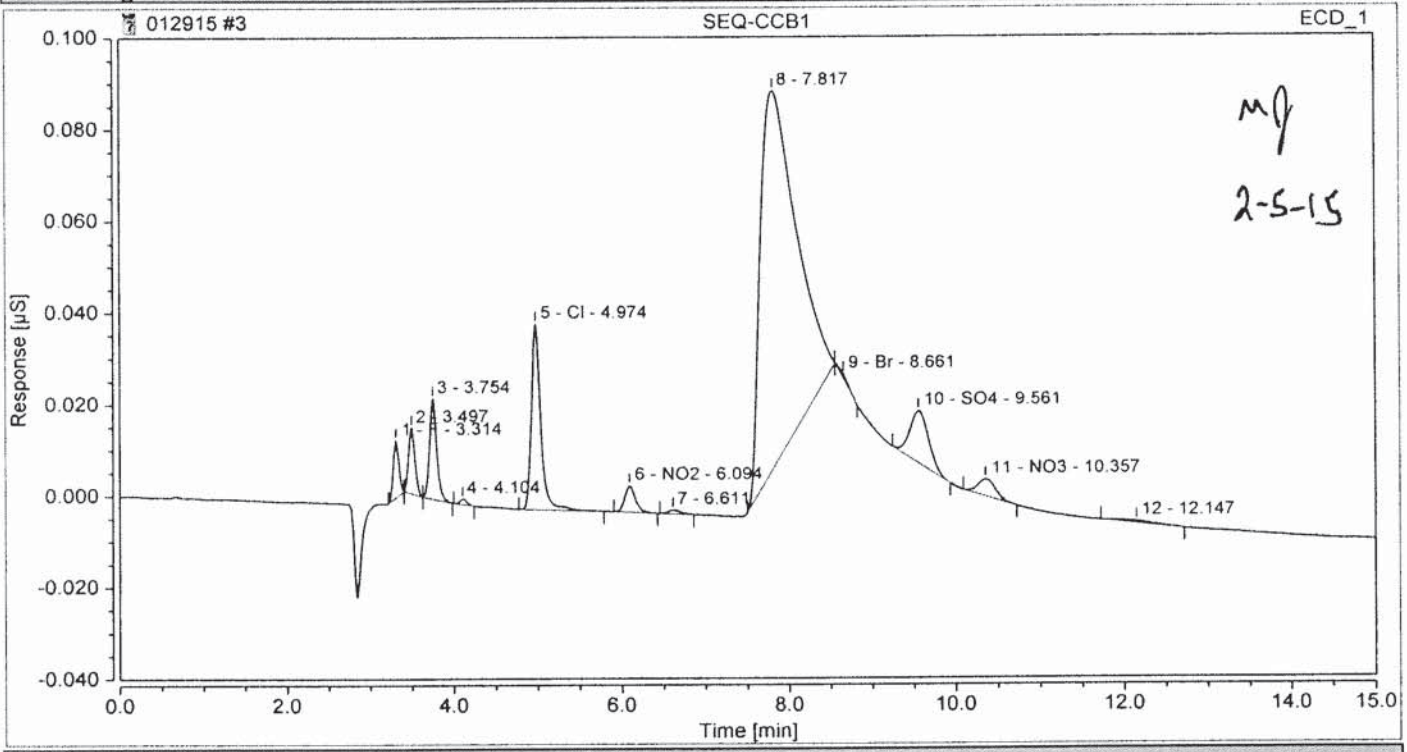
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Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CCB1**	*Run Time (min):*	**15.00**
Vial Number:	**3**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Jan/15 12:31**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.314	0.0009346	0.012	1.66	6.33	0.0019
2		3.497	0.0012837	0.014	2.28	7.32	n.a.
3		3.754	0.0021934	0.022	3.90	11.18	n.a.
4		4.104	0.0001243	0.001	0.22	0.62	n.a.
5	Cl	4.974	0.0052176	0.041	9.27	20.66	0.0173
6	NO2	6.094	0.0008689	0.006	1.54	2.97	0.0013
7		6.611	0.0001536	0.001	0.27	0.46	n.a.
8		7.817	0.0412710	0.082	73.31	41.97	n.a.
9	Br	8.661	0.0001447	0.001	0.26	0.56	0.0011
10	SO4	9.561	0.0029791	0.011	5.29	5.81	0.0147
11	NO3	10.357	0.0008860	0.004	1.57	1.88	0.0012
12		12.147	0.0002414	0.000	0.43	0.25	n.a.
Total:			**0.056**	**0.196**	**100.00**	**100.00**	

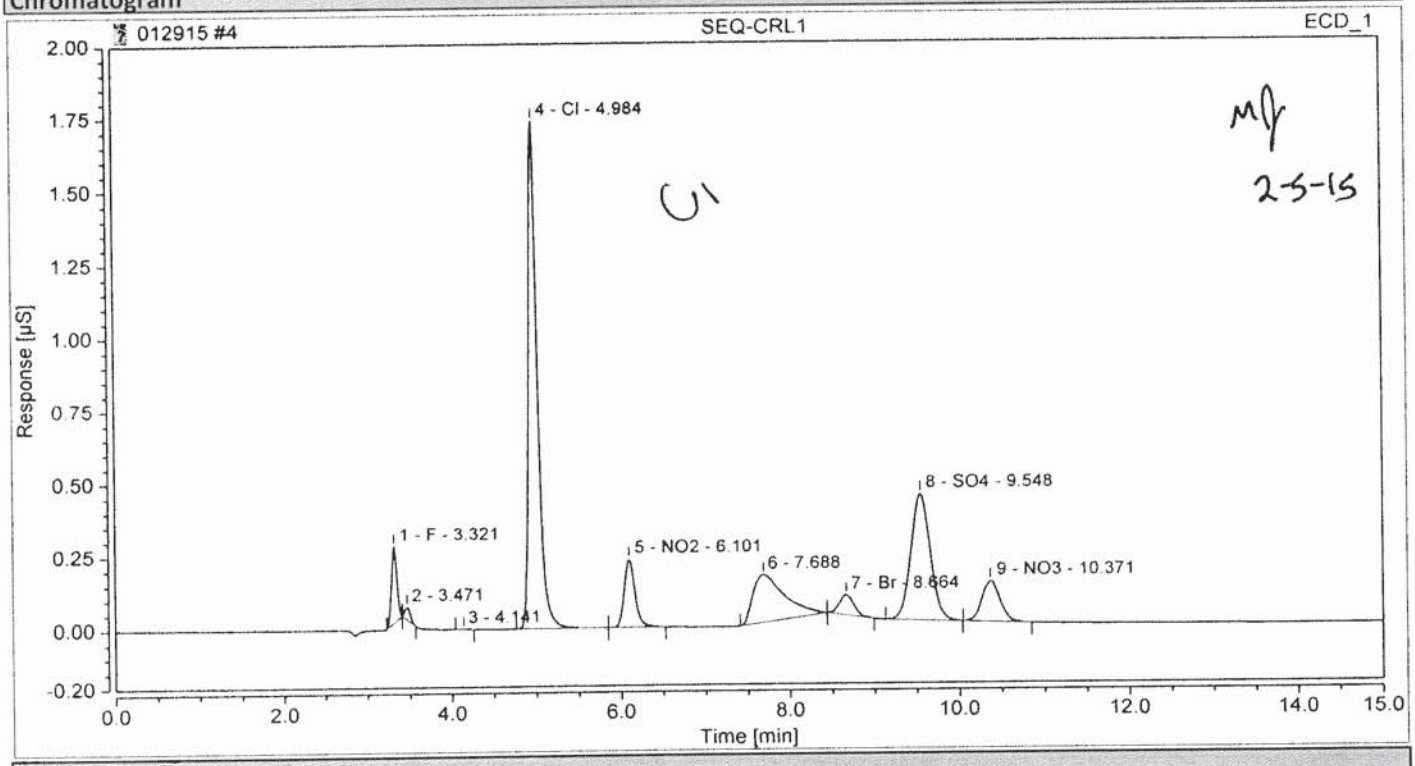
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Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CRL1**	*Run Time (min):*	**15.00**
Vial Number:	**4**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Jan/15 12:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.321	0.0195626	0.259	3.89	8.44	0.0400
2		3.471	0.0030925	0.043	0.61	1.41	n.a.
3		4.141	0.0000497	0.000	0.01	0.02	n.a.
4	Cl	4.984	0.2132127	1.736	42.36	56.48	0.7080
5	NO2	6.101	0.0342501	0.232	6.81	7.56	0.0517
6		7.688	0.0707498	0.162	14.06	5.29	n.a.
7	Br	8.664	0.0134832	0.068	2.68	2.23	0.1048
8	SO4	9.548	0.1149537	0.433	22.84	14.08	0.5670
9	NO3	10.371	0.0339527	0.138	6.75	4.50	0.0460
Total:			**0.503**	**3.073**	**100.00**	**100.00**	

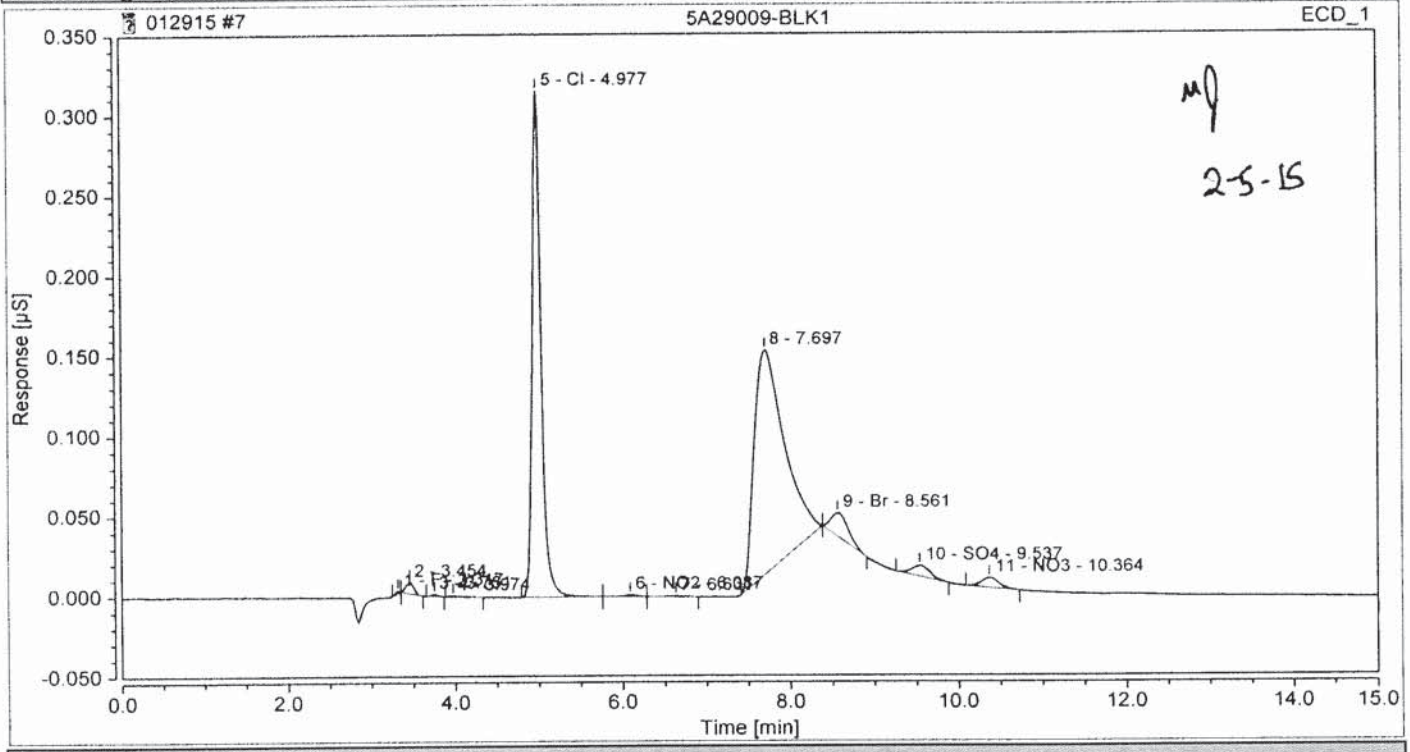
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Chromatogram and Results

Injection Details

Injection Name:	**5A29009-BLK1**	*Run Time (min):*	**15.00**
Vial Number:	**7**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Jan/15 13:42**	*Sample Weight:*	**1.0000**

Chromatogram



MJ 2-5-15

Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.317	0.0000816	0.001	0.08	0.28	0.0002
2		3.454	0.0007885	0.007	0.75	1.42	n.a.
3		3.751	0.0001201	0.001	0.11	0.27	n.a.
4		3.974	0.0000936	0.001	0.09	0.11	n.a.
5	Cl	4.977	0.0384991	0.315	36.71	63.79	0.1278
6	NO2	6.087	0.0001892	0.001	0.18	0.23	0.0003
7		6.631	0.0001235	0.000	0.12	0.10	n.a.
8		7.697	0.0582701	0.140	55.57	28.28	n.a.
9	Br	8.561	0.0035320	0.015	3.37	2.94	0.0275
10	SO4	9.537	0.0016926	0.007	1.61	1.35	0.0083
11	NO3	10.364	0.0014699	0.006	1.40	1.22	0.0020
Total:			**0.105**	**0.494**	**100.00**	**100.00**	

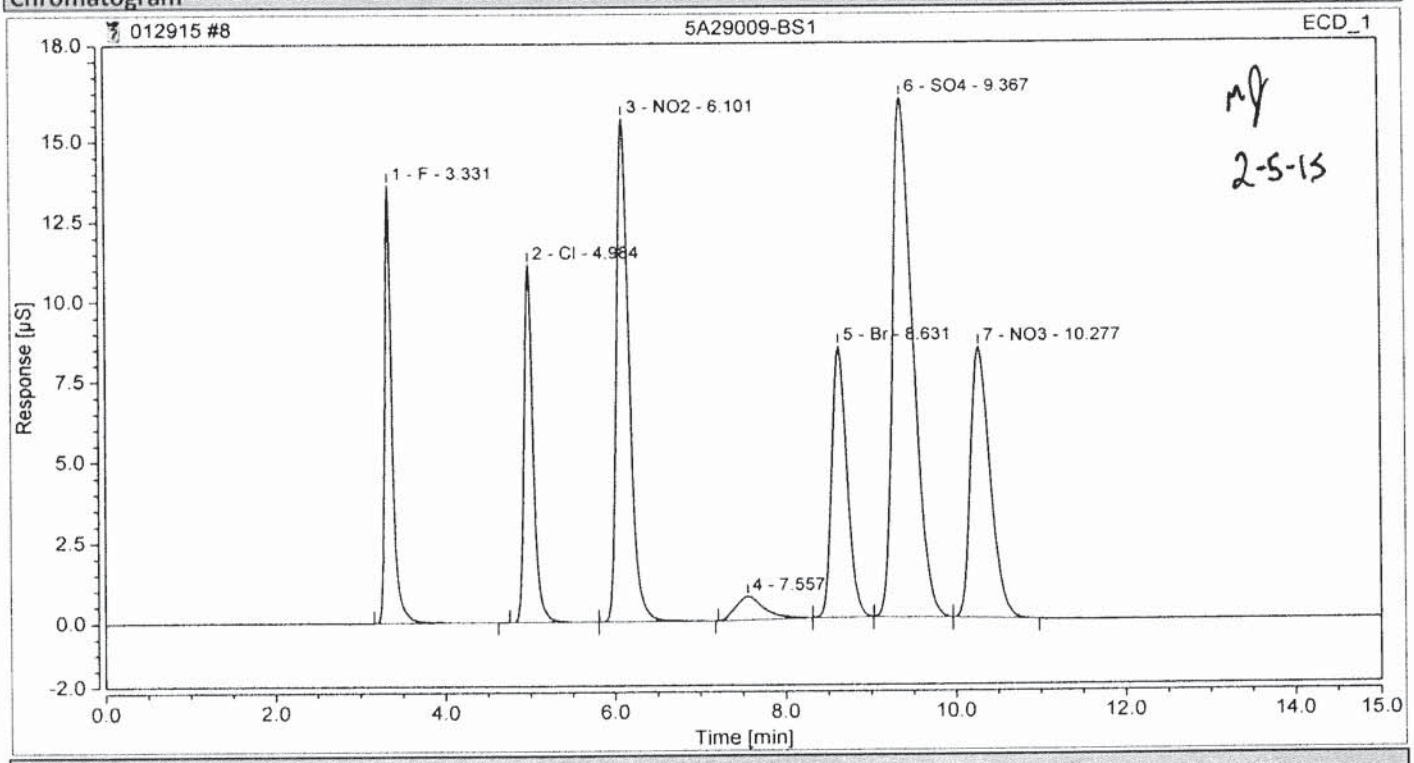
02/06/15

Chromatogram and Results

Injection Details

Injection Name:	**5A29009-BS1**	*Run Time (min):*	**15.00**
Vial Number:	**8**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Jan/15 14:00**	*Sample Weight:*	**1.0000**

Chromatogram



mf 2-5-15

Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.331	1.3660945	13.616	9.66	18.37	2.7964
2	Cl	4.984	1.3801885	11.124	9.76	15.01	4.5828
3	NO2	6.101	2.6524744	15.659	18.77	21.13	4.0068
4		7.557	0.2821660	0.729	2.00	0.98	n.a.
5	Br	8.631	1.7421322	8.424	12.33	11.37	13.5451
6	SO4	9.367	4.4620667	16.159	31.57	21.80	22.0082
7	NO3	10.277	2.2494785	8.407	15.91	11.34	3.0500
Total:			**14.135**	**74.119**	**100.00**	**100.00**	

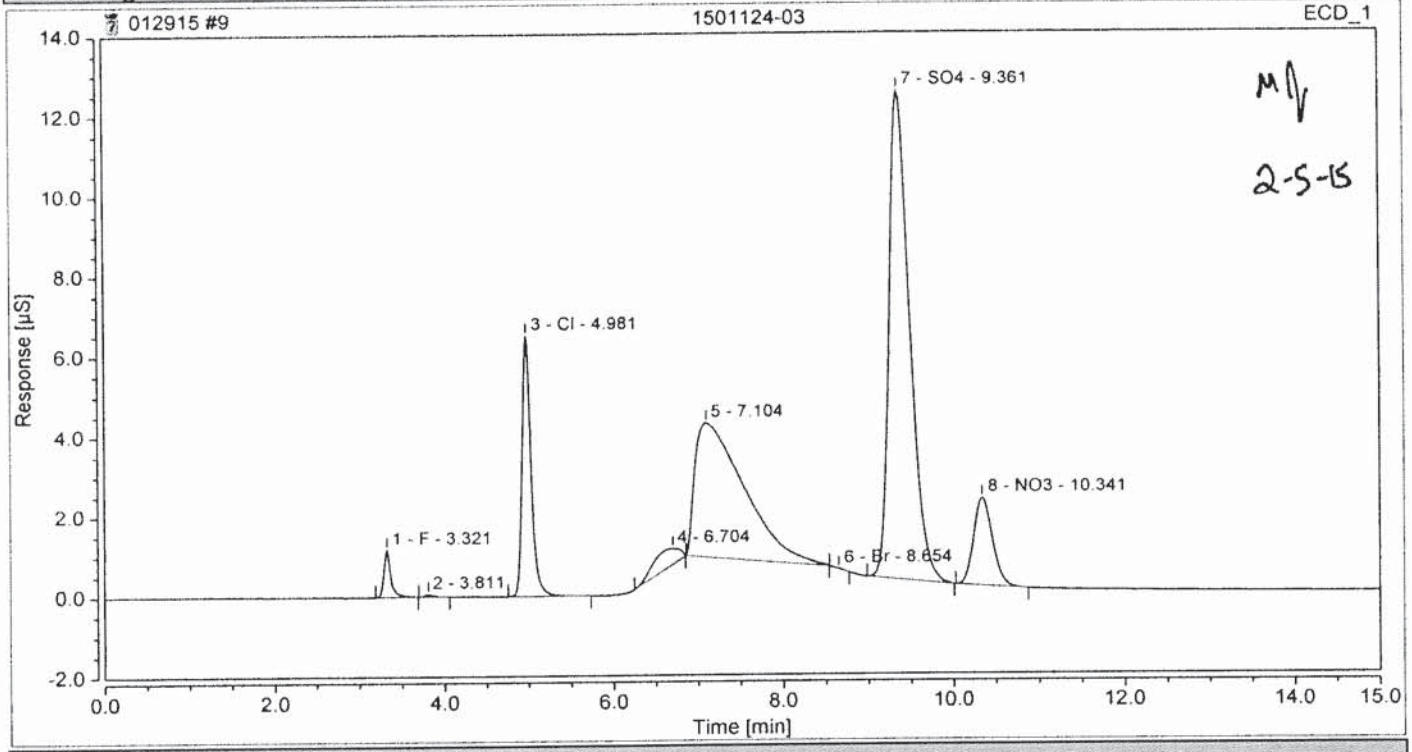
02/06/15

Chromatogram and Results

Injection Details

Injection Name:	**1501124-03**	*Run Time (min):*	**15.00**
Vial Number:	**9**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Jan/15 14:18**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.321	0.1118868	1.170	1.53	4.53	0.2290
2		3.811	0.0057572	0.058	0.08	0.23	n.a.
3	Cl	4.981	0.7977894	6.489	10.90	25.10	2.6490
n.a.	NO2	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4		6.704	0.1676336	0.391	2.29	1.51	n.a.
5		7.104	2.2626168	3.351	30.92	12.96	n.a.
6	Br	8.654	0.0006960	0.006	0.01	0.02	0.0054
7	SO4	9.361	3.4142961	12.195	46.66	47.17	16.8403
8	NO3	10.341	0.5564859	2.194	7.61	8.49	0.7545
Total:			**7.317**	**25.855**	**100.00**	**100.00**	

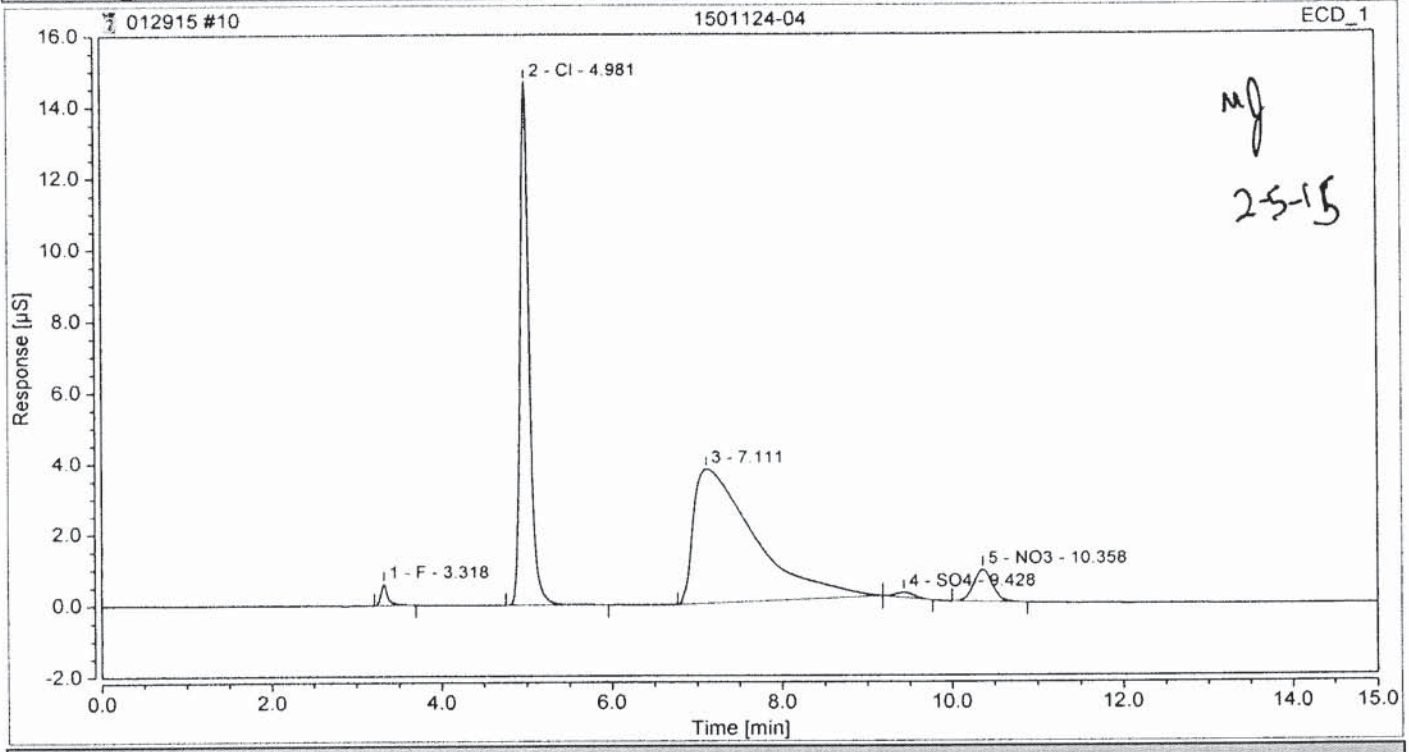
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Chromatogram and Results

Injection Details

Injection Name:	**1501124-04**	*Run Time (min):*	**15.00**
Vial Number:	**10**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Jan/15 14:35**	*Sample Weight:*	**1.0000**

Chromatogram



MJ 2-5-15

Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.318	0.0580182	0.594	1.10	2.96	0.1188
2	Cl	4.981	1.8153281	14.675	34.47	73.07	6.0277
n.a.	NO2	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3		7.111	3.1328606	3.778	59.49	18.81	n.a.
n.a.	Br	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4	SO4	9.428	0.0364138	0.146	0.69	0.73	0.1796
5	NO3	10.358	0.2232159	0.890	4.24	4.43	0.3027
Total:			**5.266**	**20.083**	**100.00**	**100.00**	

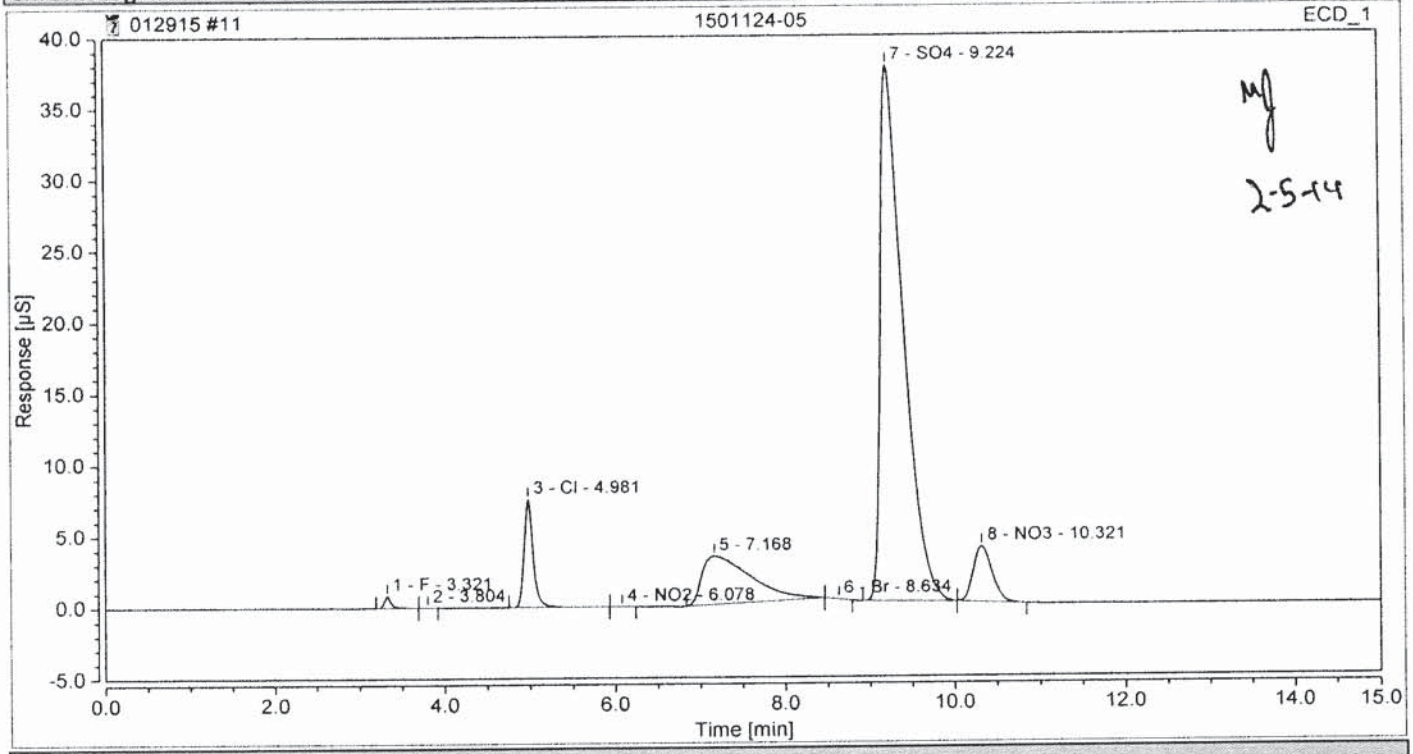
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Chromatogram and Results

Injection Details

Injection Name:	**1501124-05**	*Run Time (min):*	**15.00**
Vial Number:	**11**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Jan/15 14:53**	*Sample Weight:*	**1.0000**

Chromatogram



MJ 2-5-14

Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.321	0.0824780	0.848	0.51	1.59	0.1688
2		3.804	0.0006600	0.007	0.00	0.01	n.a.
3	Cl	4.981	0.9342216	7.562	5.82	14.19	3.1020
4	NO2	6.078	0.0002997	0.002	0.00	0.00	0.0005
5		7.168	2.2707372	3.388	14.15	6.36	n.a.
6	Br	8.634	0.0016448	0.010	0.01	0.02	0.0128
7	SO4	9.224	11.7615404	37.577	73.28	70.51	58.0112
8	NO3	10.321	0.9982832	3.897	6.22	7.31	1.3535
Total:			**16.050**	**53.292**	**100.00**	**100.00**	

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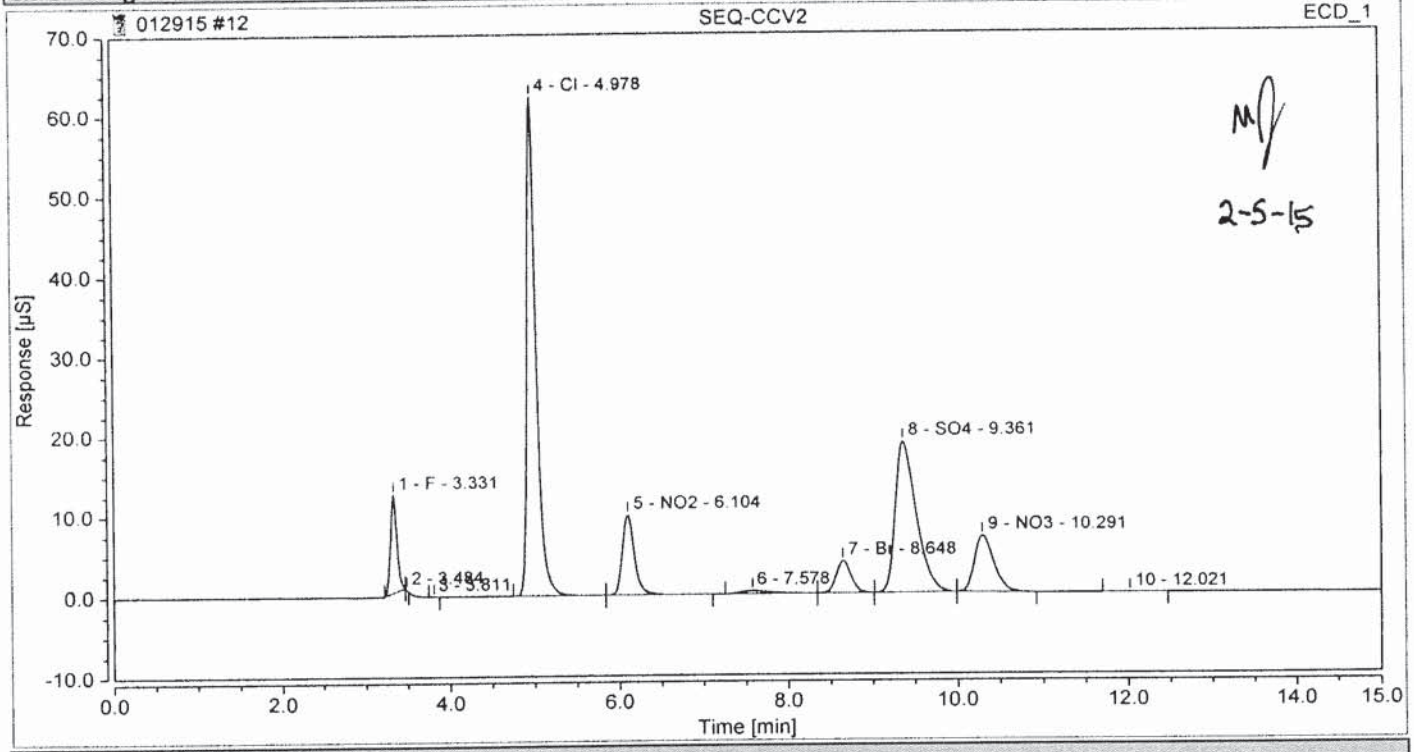
$SO_4 = (11.7615404 / .2027598) = 58.01121 \left(\frac{5mL}{5mL}\right) = 58.01121 \frac{mg}{L}$

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CCV2**	*Run Time (min):*	**15.00**
Vial Number:	**12**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Jan/15 15:11**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.331	1.0947173	12.236	5.81	10.67	2.2409
2		3.484	0.0000955	0.005	0.00	0.00	n.a.
3		3.811	0.0001996	0.003	0.00	0.00	n.a.
4	Cl	4.978	7.8757689	62.237	41.79	54.25	26.1511
5	NO2	6.104	1.6478919	9.993	8.74	8.71	2.4893
6		7.578	0.1615016	0.397	0.86	0.35	n.a.
7	Br	8.648	0.8077524	3.985	4.29	3.47	6.2803
8	SO4	9.361	5.3943734	18.820	28.62	16.41	26.6066
9	NO3	10.291	1.8624756	7.037	9.88	6.13	2.5253
10		12.021	0.0002901	0.001	0.00	0.00	n.a.
Total:			**18.845**	**114.713**	**100.00**	**100.00**	

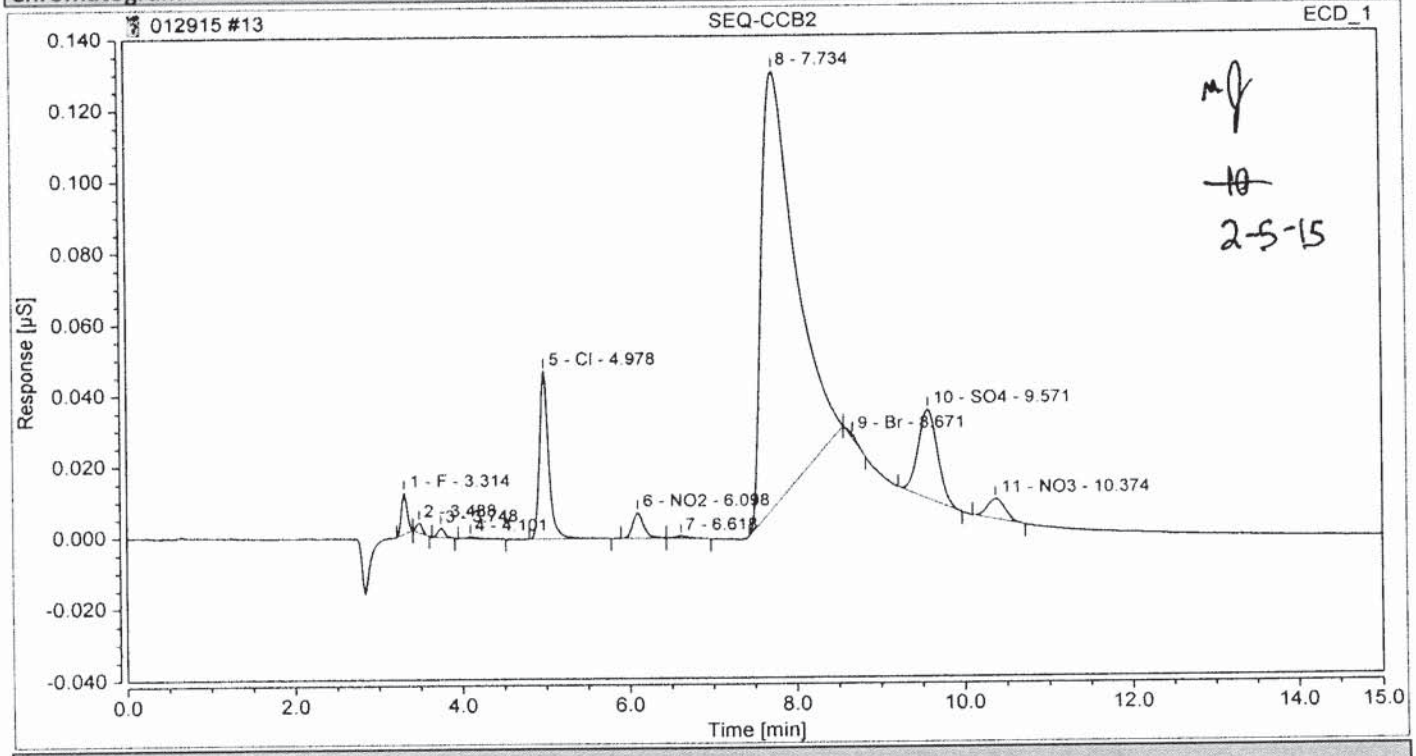
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Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CCB2**	*Run Time (min):*	**15.00**
Vial Number:	**13**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**29/Jan/15 15:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.314	0.0009097	0.012	1.22	5.13	0.0019
2		3.488	0.0002302	0.003	0.31	1.22	n.a.
3		3.748	0.0002659	0.003	0.36	1.16	n.a.
4		4.101	0.0001026	0.000	0.14	0.21	n.a.
5	Cl	4.978	0.0059669	0.047	8.03	20.80	0.0198
6	NO2	6.098	0.0011122	0.007	1.50	3.18	0.0017
7		6.618	0.0001204	0.001	0.16	0.30	n.a.
8		7.734	0.0572877	0.122	77.11	53.92	n.a.
9	Br	8.671	0.0001755	0.001	0.24	0.56	0.0014
10	SO4	9.571	0.0067563	0.025	9.09	11.04	0.0333
11	NO3	10.374	0.0013682	0.006	1.84	2.48	0.0019
Total:			**0.074**	**0.227**	**100.00**	**100.00**	

02/06/15

	Type	Analysis	Sample Name	Sample ID	Dilution	Result	Comment	Status
1	Unknown	NPOC	SEQ-CCV	15A0718 TV=25ppm	1.000	NPOC:28.31mg/L	9060A Quad	Completed
2	Unknown	NPOC	SEQ-CCB	QC	1.000	NPOC:0.1424mg/L		Completed
3	Unknown	NPOC	5B05019-BLK1	QC	1.000	NPOC:0.1175mg/L		Completed
4	Unknown	NPOC	5B05019-BS1	15A0426 TV=25ppm	1.000	NPOC:27.87mg/L		Completed
5	Unknown	NPOC	1501116-02	CB&I	1.000	NPOC:0.8343mg/L		Completed
6	Unknown	NPOC	1501116-03	CB&I	1.000	NPOC:0.5685mg/L		Completed
7	Unknown	NPOC	1501116-04	CB&I	1.000	NPOC:0.5672mg/L		Completed
8	Unknown	NPOC	1501116-05	CB&I	1.000	NPOC:0.6652mg/L		Completed
9	Unknown	NPOC	5B05019-MS1	CB&I	1.000	NPOC:16.44mg/L	15ppm	Completed
10	Unknown	NPOC	5B05019-MSD1	CB&I	1.000	NPOC:15.80mg/L	15ppm	Completed
11	Unknown	NPOC	1501116-06	CB&I	1.000	NPOC:0.2240mg/L		Completed
12	Unknown	NPOC	1501116-07	CB&I	1.000	NPOC:0.6794mg/L		Completed
13	Unknown	NPOC	1501124-03	CB&I	1.000	NPOC:0.3623mg/L		Completed
14	Unknown	NPOC	1501124-04	CB&I	1.000	NPOC:0.4133mg/L		Completed
15	Unknown	NPOC	1501124-05	CB&I	1.000	NPOC:0.5264mg/L		Completed
16	Unknown	NPOC	SEQ-CCV	15A0719 TV=50ppm	1.000	NPOC:57.11mg/L		Completed
17	Unknown	NPOC	SEQ-CCB	QC	1.000	NPOC:0.1265mg/L		Completed
18	Unknown	NPOC	1501134-03	CB&I	1.000	NPOC:1.638mg/L		Completed
19	Unknown	NPOC	1502012-01	ENSAFE	1.000	NPOC:5.687mg/L		Completed
20	Unknown	NPOC	1502012-02	ENSAFE	1.000	NPOC:3.036mg/L		Completed
21	Unknown	NPOC	1502026-01	ENSAFE	1.000	NPOC:7.547mg/L		Completed
22	Unknown	NPOC	5B05019-MS2	ENSAFE	1.000	NPOC:23.53mg/L	15ppm	Completed
23	Unknown	NPOC	5B05019-MSD2	ENSAFE	1.000	NPOC:22.94mg/L	15ppm	Completed
24	Unknown	NPOC	1502026-02	ENSAFE	1.000	NPOC:4.244mg/L		Completed
25	Unknown	NPOC	SEQ-CCV	15A0718 TV=25ppm	1.000	NPOC:24.08mg/L		Completed
26	Unknown	NPOC	SEQ-CCB	QC	1.000	NPOC:0.1185mg/L		Completed

2-5-2014 Analysis

Seq.# 5B04116

Cal. # 5023004

2nd ✓

2026-02 = $\frac{49.06}{11.56}$ 4.24 mg/L

2nd vBLR
2/12/15

Instr.Information

System: Shimadzu TOC-Vws
Detector: Wet Chemical

Sample

Sample Name: SEQ-CCV
Sample ID: 15A0718 TV=25ppm
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status: Completed
Chk. Result:

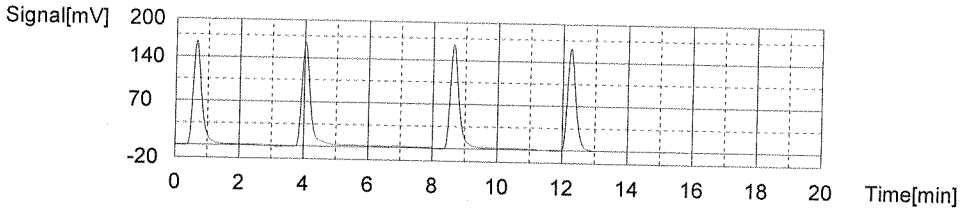
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:28.31mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	328.5	28.42mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 3:49:52 PM
2	344.8	29.83mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 3:56:51 PM
3	339.3	29.35mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 4:02:51 PM
4	296.6	25.66mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 4:07:22 PM

Mean Area 327.3
Mean Conc. 28.31mg/L



Sample

Sample Name: SEQ-CCB
Sample ID: QC
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status: Completed
Chk. Result:

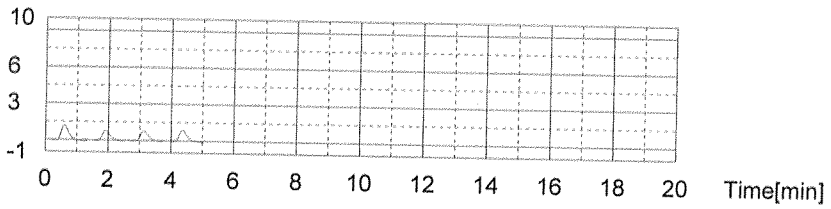
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.1424mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.134	0.1846mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 4:17:33 PM
2	1.379	0.1193mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 4:21:09 PM
3	1.470	0.1272mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 4:24:46 PM
4	1.600	0.1384mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 4:29:17 PM

Mean Area 1.646
Mean Conc. 0.1424mg/L



Sample

Sample Name: 5B05019-BLK1
Sample ID: QC
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

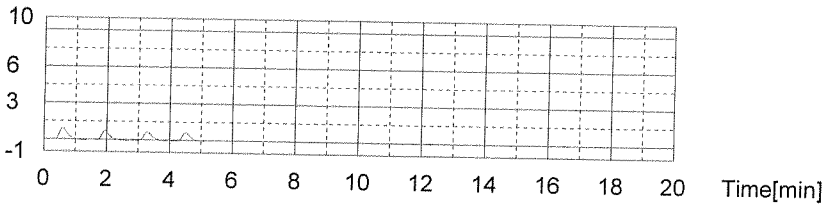
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.1175mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.641	0.1420mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 4:39:30 PM
2	1.374	0.1189mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 4:43:13 PM
3	1.234	0.1068mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 4:46:50 PM
4	1.182	0.1023mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 4:51:21 PM

Mean Area 1.358
Mean Conc. 0.1175mg/L



Sample

Sample Name: 5B05019-BS1
Sample ID: 15A0426 TV=25ppm
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

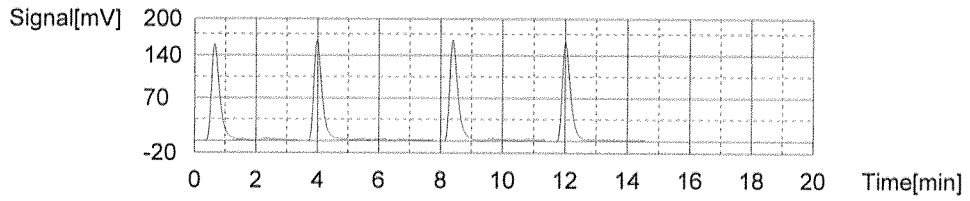
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:27.87mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	311.3	26.93mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 5:03:33 PM
2	334.0	28.89mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 5:10:31 PM
3	327.8	28.36mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 5:17:14 PM
4	315.6	27.30mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 5:22:59 PM

Mean Area 322.2
Mean Conc. 27.87mg/L



Sample

Sample Name: 1501116-02
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

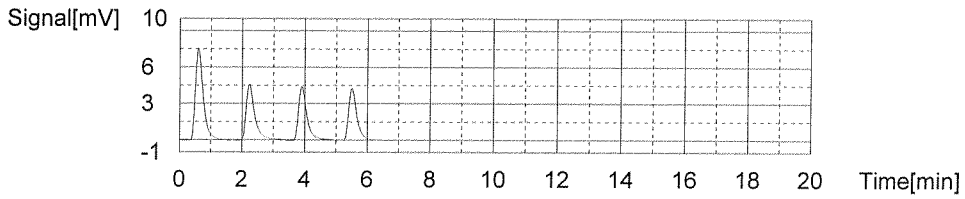
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.8343mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	13.54	1.171mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 5:35:35 PM
2	8.886	0.7687mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 5:39:38 PM
3	8.371	0.7242mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 5:43:37 PM
4	7.780	0.6731mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 5:48:08 PM

Mean Area 9.644
Mean Conc. 0.8343mg/L



Sample

Sample Name: 1501116-03
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

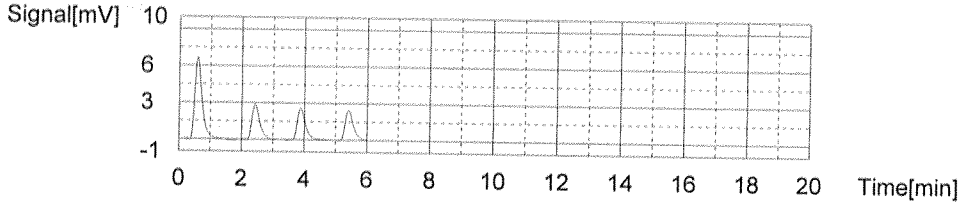
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.5685mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	11.50	0.9949mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 5:58:49 PM
2	5.263	0.4553mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:02:39 PM
3	4.902	0.4241mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:06:34 PM
4	4.620	0.3997mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:11:05 PM

Mean Area 6.571
Mean Conc. 0.5685mg/L



Sample

Sample Name: 1501116-04
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

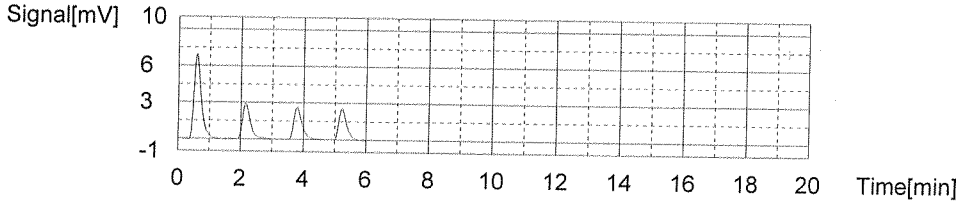
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.5672mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	11.48	0.9931mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:21:30 PM
2	5.273	0.4562mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:25:31 PM
3	4.870	0.4213mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:29:20 PM
4	4.604	0.3983mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:33:51 PM

Mean Area 6.557
Mean Conc. 0.5672mg/L



Sample

Sample Name: 1501116-05
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

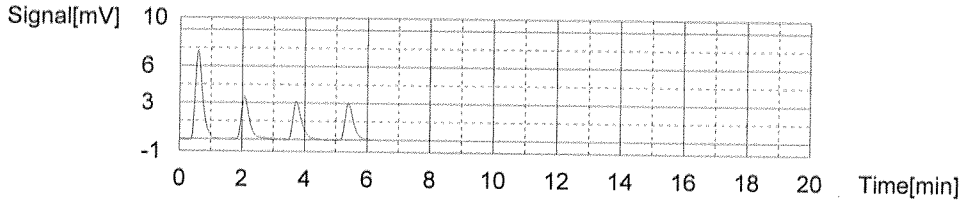
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.6652mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	12.43	1.075mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:44:11 PM
2	6.360	0.5502mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:48:13 PM
3	6.260	0.5416mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:52:16 PM
4	5.709	0.4939mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:56:47 PM

Mean Area 7.690
Mean Conc. 0.6652mg/L



Sample

Sample Name: 5B05019-MS1
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

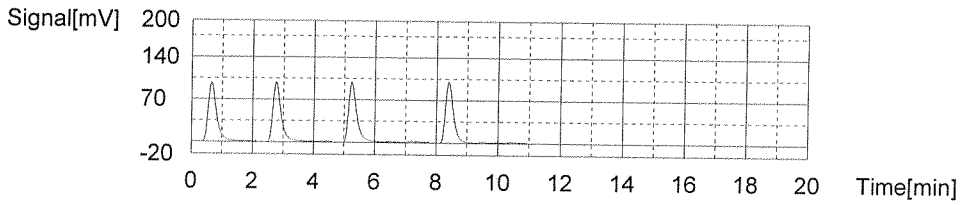
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:16.44mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	189.0	16.35mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 7:07:46 PM
2	190.4	16.47mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 7:12:38 PM
3	190.7	16.50mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 7:18:10 PM
4	190.0	16.44mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 7:24:34 PM

Mean Area 190.0
Mean Conc. 16.44mg/L



Sample

Sample Name: 5B05019-MSD1
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

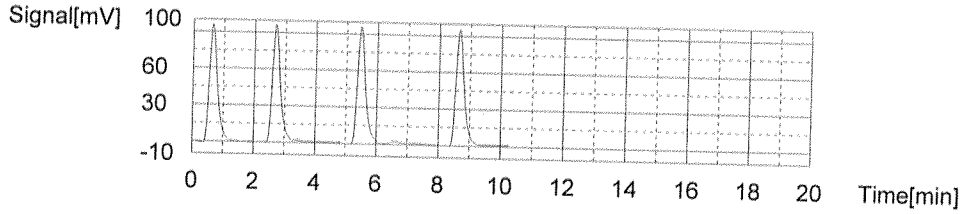
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:15.80mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	181.5	15.70mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 7:37:31 PM
2	184.6	15.97mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 7:42:41 PM
3	185.2	16.02mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 7:48:15 PM
4	179.2	15.50mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 7:54:38 PM

Mean Area 182.6
Mean Conc. 15.80mg/L



Sample

Sample Name: 1501116-06
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

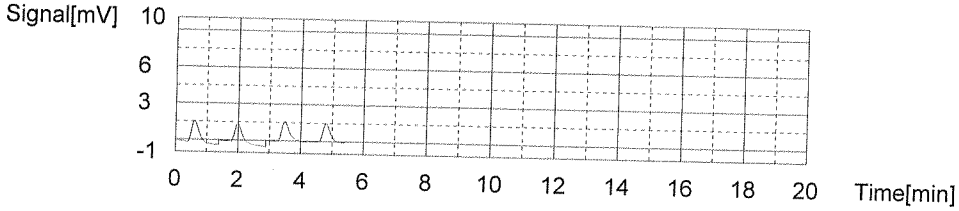
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.2240mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.776	0.2402mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:06:55 PM
2	2.228	0.1927mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:10:48 PM
3	2.829	0.2447mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:14:30 PM
4	2.523	0.2183mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:19:01 PM

Mean Area 2.589
Mean Conc. 0.2240mg/L



Sample

Sample Name: 1501116-07
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

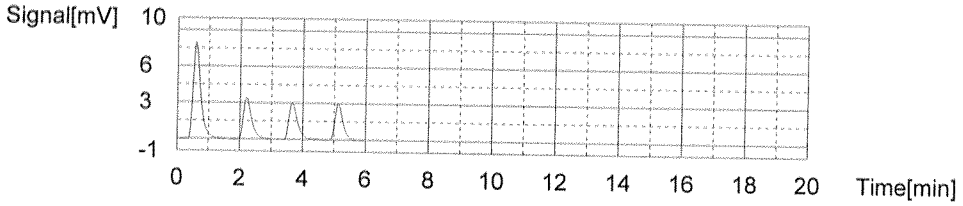
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.6794mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	13.71	1.186mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:29:29 PM
2	6.413	0.5548mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:33:19 PM
3	5.794	0.5012mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:37:10 PM
4	5.498	0.4756mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:41:41 PM

Mean Area 7.854
Mean Conc. 0.6794mg/L



Sample

Sample Name: 1501124-03
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

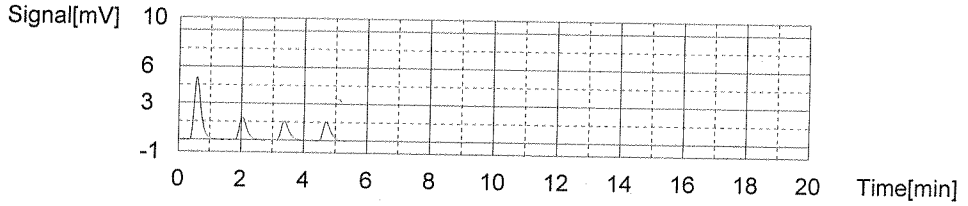
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.3623mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.082	0.6992mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:52:00 PM
2	3.218	0.2784mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:55:43 PM
3	2.785	0.2409mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:59:26 PM
4	2.669	0.2309mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 9:03:57 PM

Mean Area 4.189
Mean Conc. 0.3623mg/L



Sample

Sample Name: 1501124-04
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

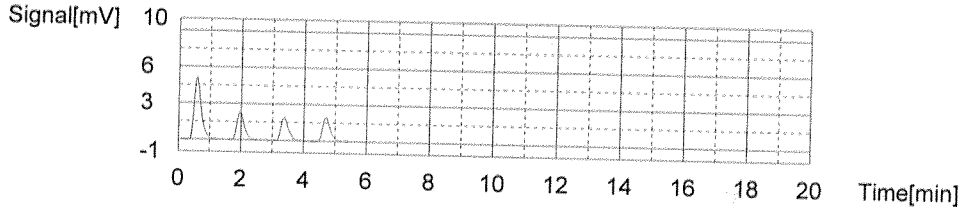
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.4133mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.271	0.7155mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 9:14:11 PM
2	3.891	0.3366mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 9:17:58 PM
3	3.457	0.2991mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 9:21:41 PM
4	3.491	0.3020mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 9:26:12 PM

Mean Area 4.778
Mean Conc. 0.4133mg/L



Sample

Sample Name:
Sample ID:
Origin:
Status
Chk. Result

1501124-05
CBI
01-19-15Q.2015_01_19_11_33_04.cal
Completed

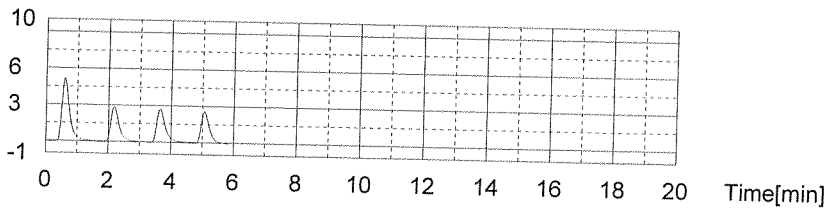
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.5264mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.061	0.7839mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 9:36:38 PM
2	5.358	0.4635mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 9:40:29 PM
3	5.140	0.4447mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 9:44:17 PM
4	4.781	0.4136mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 9:48:48 PM

Mean Area 6.085
Mean Conc. 0.5264mg/L



Sample

Sample Name:
Sample ID:
Origin:
Status
Chk. Result

SEQ-CCV
15A0719 TV=50ppm
01-19-15Q.2015_01_19_11_33_04.cal
Completed

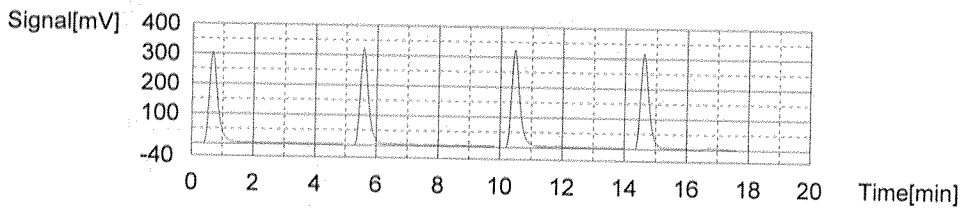
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:57.11mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	642.2	55.56mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 10:02:34 PM
2	663.3	57.38mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 10:10:35 PM
3	664.6	57.49mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 10:17:07 PM
4	670.5	58.01mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 10:23:56 PM

Mean Area 660.1
Mean Conc. 57.11mg/L



Sample

Sample Name: SEQ-CCB
Sample ID: QC
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

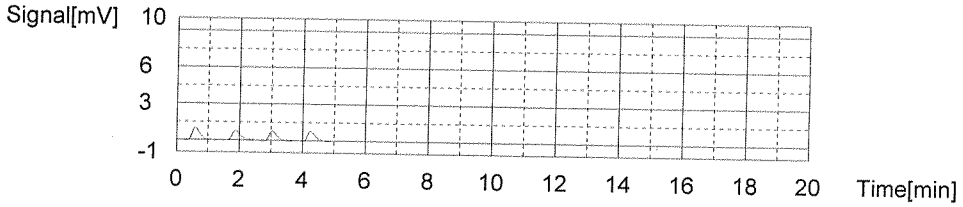
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.1265mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.789	0.1548mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 10:36:09 PM
2	1.346	0.1164mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 10:39:41 PM
3	1.346	0.1164mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 10:43:17 PM
4	1.369	0.1184mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 10:47:48 PM

Mean Area 1.462
Mean Conc. 0.1265mg/L



Sample

Sample Name: 1501134-03
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

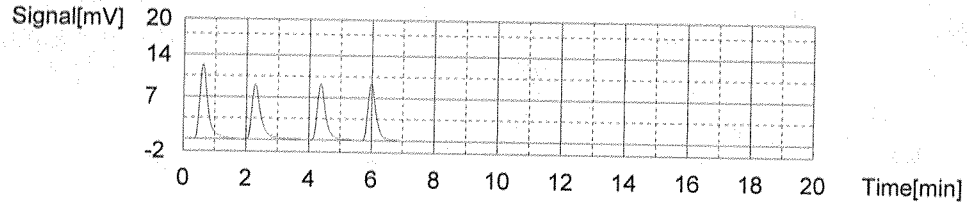
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:1.638mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	22.42	1.940mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 10:58:19 PM
2	18.36	1.588mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:02:47 PM
3	17.59	1.522mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:06:47 PM
4	17.37	1.503mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:11:18 PM

Mean Area 18.94
Mean Conc. 1.638mg/L



Sample

Sample Name: 1502012-01
Sample ID: ENSAFE
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

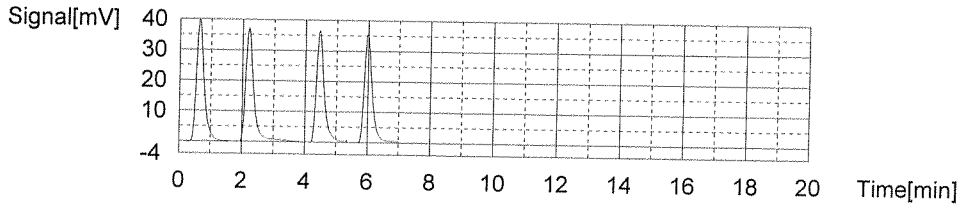
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:5.687mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	69.79	6.038mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:21:44 PM
2	67.44	5.834mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:26:22 PM
3	62.68	5.422mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:30:56 PM
4	63.04	5.454mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:35:27 PM

Mean Area 65.74
Mean Conc. 5.687mg/L



Sample

Sample Name: 1502012-02
Sample ID: ENSAFE
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

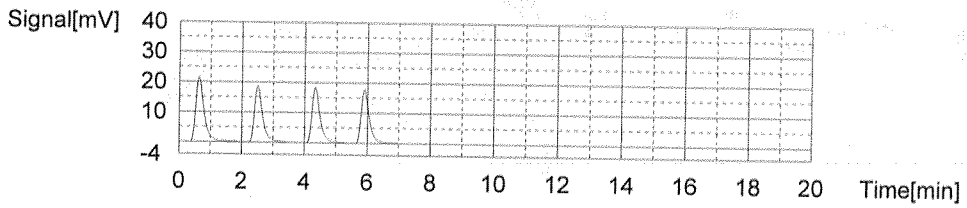
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:3.036mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	40.26	3.483mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:46:11 PM
2	34.73	3.005mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:50:24 PM
3	33.12	2.865mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:54:26 PM
4	32.25	2.790mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:58:57 PM

Mean Area 35.09
Mean Conc. 3.036mg/L



Sample

Sample Name: 1502026-01
Sample ID: ENSAFE
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

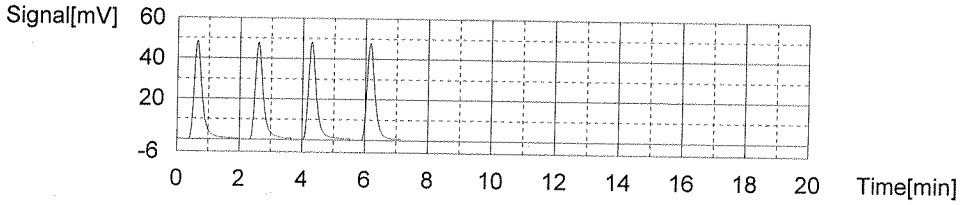
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:7.547mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	88.06	7.618mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 12:09:46 AM
2	87.06	7.532mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 12:13:51 AM
3	87.82	7.597mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 12:18:06 AM
4	86.01	7.441mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 12:22:37 AM

Mean Area 87.24
Mean Conc. 7.547mg/L



Sample

Sample Name: 5B05019-MS2
Sample ID: ENSAFE
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

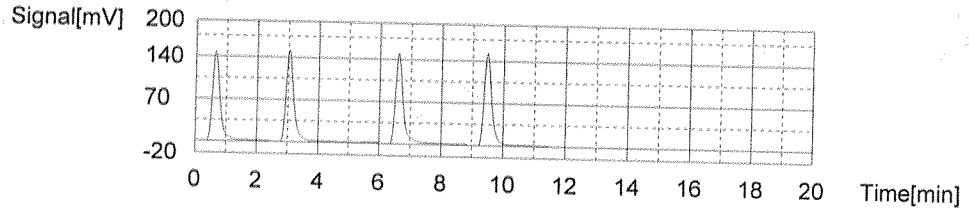
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:23.53mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	264.1	22.85mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 12:33:52 AM
2	280.2	24.24mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 12:39:49 AM
3	274.0	23.70mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 12:45:04 AM
4	269.8	23.34mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 12:50:48 AM

Mean Area 272.0
Mean Conc. 23.53mg/L



Sample

Sample Name: 5B05019-MSD2
Sample ID: ENSAFE
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

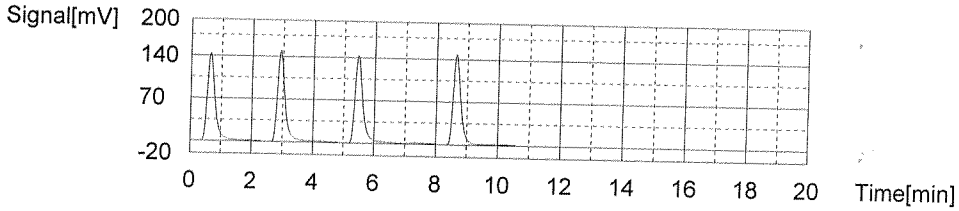
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:22.94mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	258.9	22.40mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 1:03:59 AM
2	269.1	23.28mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 1:08:54 AM
3	270.0	23.36mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 1:15:11 AM
4	262.8	22.73mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 1:20:58 AM

Mean Area 265.2
Mean Conc. 22.94mg/L



Sample

Sample Name: 1502026-02
Sample ID: ENSAFE
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

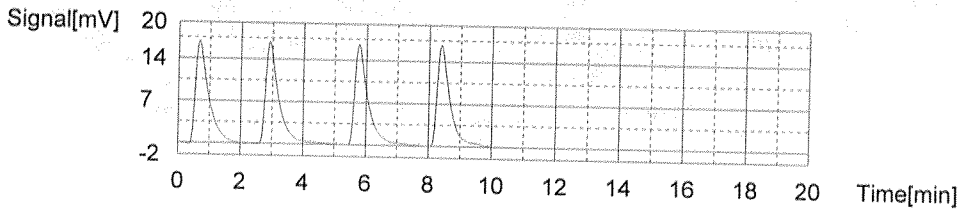
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:4.244mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	51.55	4.460mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 1:34:07 AM
2	49.20	4.256mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 1:39:20 AM
3	48.78	4.220mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 1:44:20 AM
4	46.71	4.041mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 1:50:05 AM

Mean Area 49.06
Mean Conc. 4.244mg/L



Sample

Sample Name: SEQ-CCV
Sample ID: 15A0718 TV=25ppm
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

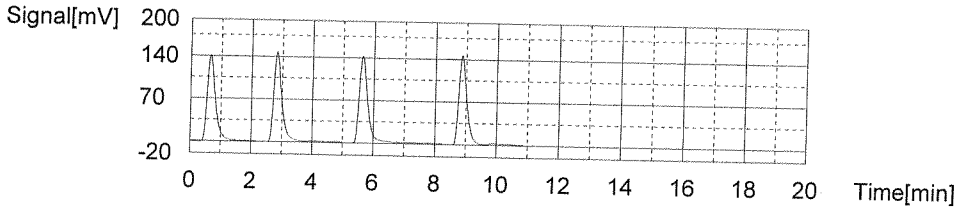
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:24.08mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	271.0	23.44mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 2:03:10 AM
2	282.1	24.40mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 2:08:21 AM
3	283.2	24.50mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 2:14:43 AM
4	277.3	23.99mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 2:20:27 AM

Mean Area 278.4
Mean Conc. 24.08mg/L



Sample

Sample Name: SEQ-CCB
Sample ID: QC
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

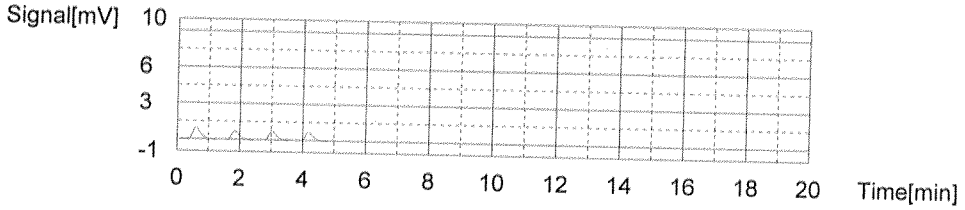
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.1185mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.744	0.1509mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 2:32:36 AM
2	1.231	0.1065mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 2:36:10 AM
3	1.265	0.1094mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 2:39:43 AM
4	1.237	0.1070mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 2:44:14 AM

Mean Area	1.369
Mean Conc.	0.1185mg/L



TOC-V Cal Curve Information
01-19-15Q.2015_01_19_11_33_04.cal

Date of Creation	10:35:54 AM 1/19/2015
User	RBURR
System	Shimadzu TOC-Vws

Cal. Curve

Sample Name:	Untitled
Sample ID:	Untitled
Cal. Curve:	01-19-15Q.2015_01_19_11_33_04.cal
Status	Completed
Comment:	

Type	Anal.
Standard	NPOC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1.831	350uL	2	*******		1/19/2015 11:42:33
2	1.286	350uL	2	*******		1/19/2015 11:45:43
3	1.255	350uL	2	*******		1/19/2015 11:48:52
4	1.213	350uL	2	*******		1/19/2015 11:53:07

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	1.396
SD Area	0.2914
CV Area	20.87%
Vial	1
WetChem Oxid.	1.5mL

Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	11.99	350uL	2	*******		1/19/2015 12:03:18
2	11.78	350uL	2	*******		1/19/2015 12:06:45
3	11.72	350uL	2	*******		1/19/2015 12:10:11
4	11.42	350uL	2	*******		1/19/2015 12:14:26

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	11.73
SD Area	0.2354
CV Area	2.01%
Vial	2
WetChem Oxid.	1.5mL

Conc: 2.500mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	25.55	350uL	2	*******		1/19/2015 12:24:39
2	27.06	350uL	2	*******		1/19/2015 12:28:11
3	28.51	350uL	2	*******		1/19/2015 12:31:59
4	26.05	350uL	2	*******		1/19/2015 12:36:15

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	26.79
SD Area	1.306
CV Area	4.87%
Vial	3
WetChem Oxid.	1.5mL

Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	51.30	350uL	2	*******		1/19/2015 12:46:38 I
2	51.69	350uL	2	*******		1/19/2015 12:50:19 I
3	52.69	350uL	2	*******		1/19/2015 12:54:41 I
4	50.84	350uL	2	*******		1/19/2015 12:58:56 I

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	51.63
SD Area	0.7874
CV Area	1.53%
Vial	4
WetChem Oxid.	1.5mL

Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	108.0	350uL	2	*******		1/19/2015 1:09:51 P
2	111.3	350uL	2	*******		1/19/2015 1:14:06 P
3	109.4	350uL	2	*******		1/19/2015 1:18:05 P
4	103.9	350uL	2	*******		1/19/2015 1:22:20 P

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	108.2
SD Area	3.140
CV Area	2.90%
Vial	5
WetChem Oxid.	1.5mL

Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	248.9	350uL	2	*******		1/19/2015 1:32:48 P
2	290.8	350uL	2	*******		1/19/2015 1:38:14 P
3	273.0	350uL	2	*******		1/19/2015 1:42:06 P
4	280.0	350uL	2	*******		1/19/2015 1:46:21 P

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	273.2
SD Area	17.76
CV Area	6.50%
Vial	6
WetChem Oxid.	1.5mL

Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	563.3	350uL	2	*******		1/19/2015 1:57:06 P
2	559.5	350uL	2	*******		1/19/2015 2:01:01 P
3	574.4	350uL	2	*******		1/19/2015 2:05:00 P
4	541.7	350uL	2	*******		1/19/2015 2:09:15 P

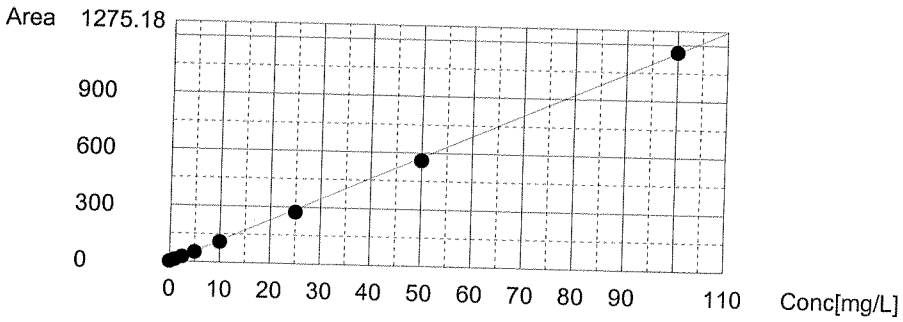
Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	559.7
SD Area	13.58
CV Area	2.43%
Vial	7
WetChem Oxid.	1.5mL

Conc: 100.0mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1263	350uL	2	*******		1/19/2015 2:22:09 P
2	1278	350uL	2	*******		1/19/2015 2:27:30 P
3	1024	350uL	2	*******		1/19/2015 2:31:36 P
4	1072	350uL	2	*******		1/19/2015 2:37:04 P

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	1159
SD Area	130.1
CV Area	11.22%
Vial	8
WetChem Oxid.	1.5mL

Slope:	11.56
Intercept	0.000
r^2	0.9996
r	0.9998
Zero Shift	Yes



PREPARATION BENCH SHEET

5A29009

Empirical Laboratories, LLC **Printed: 2/12/2015 2:01:38PM**

Instrument:

Matrix: Water **Prepared using: GCLC - WC_PREP_ANIONS_W** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID		ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
1501124-03	F	WC_ANIONS_9056A (Short Ho	01/29/2015	5	5						NA	;;
1501124-03	F	WC_ANIONS_9056A (Regular)	01/29/2015	5	5						NA	;;
1501124-04	F	WC_ANIONS_9056A (Short Ho	01/29/2015	5	5						NA	;;
1501124-04	F	WC_ANIONS_9056A (Regular)	01/29/2015	5	5						NA	;;
1501124-05	F	WC_ANIONS_9056A (Short Ho	01/29/2015	5	5						NA	;;
1501124-05	F	WC_ANIONS_9056A (Regular)	01/29/2015	5	5						NA	;;
5A29009-BLK1		QC	01/29/2015	5	5						NA	
5A29009-BS1		QC	01/29/2015	5	5	14L0385			5000		NA	

Reagents Used:

Standard	Description

PREPARATION BENCH SHEET

5B05019

Empirical Laboratories, LLC **Printed: 2/12/2015 2:03:20PM**

Instrument:

Matrix: Water **Prepared using: WC - pNone** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
1501116-02	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	;;
1501116-03	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	;;
1501116-04	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	;;
1501116-05	T	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	MS/MSD;MS/MSD;MS/MSD
1501116-06	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	;;
1501116-07	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	;;
1501124-03	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	;;
1501124-04	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	;;
1501124-05	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	;;
1501134-03	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	;;
1502012-01	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	Unpres. VOC;;
1502012-02	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	Unpres. VOC;;
1502026-01	U	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	MS/MSD, Unpres. VOC;;
1502026-02	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	Unpres. VOC;;
5B05019-BLK1		QC	02/05/2015	40	40					NA	
5B05019-BS1		QC	02/05/2015	40	40	15A0426		40000		NA	
5B05019-MS1		QC	02/05/2015	40	40	14F0560	1501116-05	600		NA	

PREPARATION BENCH SHEET

5B05019

Empirical Laboratories, LLC **Printed: 2/12/2015 2:03:20PM**

Instrument:

Matrix: Water **Prepared using: WC - pNone** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
5B05019-MS2		QC	02/05/2015	40	40	14F0560	1502026-01	600		NA	
5B05019-MSD1		QC	02/05/2015	40	40	14F0560	1501116-05	600		NA	
5B05019-MSD2		QC	02/05/2015	40	40	14F0560	1502026-01	600		NA	

Reagents Used:

Standard	Description
14L0603	TOC Phosphoric Acid Reagent
15A0462	TOC PERSULFATE REAGENT

ANALYTICAL DATA PACKAGE
SDG # 1501134

PROJECT NAME: RADFORD ARMY AMMUNITION PLANT
PROJECT LOCATION: RADFORD VA
CONTRACT #: W912QR-04-D-0027 DA101

SUBMITTAL TO:
Eric Malarek
CB&I FEDERAL SERVICES, LLC
4696 Millennium Drive, Suite 320
Belcamp, MD 21017

SUBMITTAL BY:
Empirical Laboratories, LLC (EL)
621 Mainstream Drive, Suite 270
Nashville, TN 37228
Tel (615)345-1115
Fax (866)417-0548

LABORATORY CONTACT PERSON:
Project Manager: Sonya Gordon
Tel (615)345-1115
Fax (866)417-0548
Email: sgordon@empirlabs.com

Original Report Date: February 20, 2015
Report Revision #: N/A
Revision Date: N/A
Total # of Pages: 457

THIS DOCUMENT MEETS DoD QSM 4.2 STANDARDS

The results relate to only the samples associated with the referenced SDG and the submitted data has been produced in accordance with laboratory procedures. The Laboratory's Technical Lab Director, Mr. Rick Davis, is responsible for the final data produced and reported. His signature is listed at the end of the Case Narrative within the Analytical Data Package. If applicable to this report package, details on report revisions and the information on subcontracted analysis are listed in the package Case Narrative. This report shall not be reproduced, except in full, without the written approval of Empirical Laboratories, LLC.

L-A-B Accredited - Certificate Number L2226 - Testing

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Sample Delivery Group Case Narrative

Receipt Information:
The samples were received within the preservation guidelines for the associated methods. The information associated with sample receipt and the Sample Delivery Group (SDG) are included within section 4 of this package, which also provides information on the link between the client sample ID listed on the COC and laboratory's assigned unique sample ID or WorkOrder #. The sample is tracked through the laboratory for all analysis via the assigned WorkOrder #.

All samples that were received were analyzed and none of the samples were placed on hold without analyses. There were no subcontracted analyses for this SDG.

The following issues were discovered with the COC and/or samples upon log-in:

1. As per the client, the sample listed on the COC as Rinse Blank should have the client ID of Trip Blank.

Changes to the Revision:
This is an original submittal of the final report package.

Analytical Information:
All samples were prepped (where applicable) and analyzed within the standard allowed holding times, unless noted within the exceptions listed below. The laboratory analyzed all samples within the program and method guidelines. Sample preparation and dilution information is provided within the final results report and at the beginning of each form set. The following information is provided specific to individual methods:

SW8260B:
Note – Samples 1501134-01, -02, and -03 were re-analyzed as 1501134-01RE1, -02RE1, and -03RE1 due to instrument QC issues associated to the original analyses. Only the re-analyses are included in the report. Sample 1501134-03RE1 was analyzed at a 2x due to the sample foaming. No lower analysis was performed.

The following continuing calibration verifications exceeded criteria:
5B04309-CCV1 with a positive bias for Bromoform and Carbon Tetrachloride; note – no positive results were detected in the associated samples for the compounds exceeding criteria

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

RSK175 MEE:
No anomalies or deviations are noted.

SW6010C/SW7470A:
No anomalies or deviations are noted.

Wet Chemistry:
The following were received after the method recommended holding time:
Laboratory pH for 1501134-04

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

Data Qualifiers:

As applicable and where required, the following general qualifiers are associated with the sample results. Additional qualifiers will be specified within the reporting sections of the data package or within the body of the Case Narrative.

Analytical Report Terms and Qualifiers

DL: The detection limit (DL) is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The DL is supported by the method detection limit (MDL) which is determined from analysis of a sample containing the analyte in a given matrix.

LOD: The Limit of Detection is an estimate of the minimum amount of a substance that an analytical process can reliably detect. An LOD is analyte- and matrix-specific and may be laboratory-dependent. This definition is further clarified in the DoD QSM 4.2 revisions as the smallest amount or concentration of a substance that must be present in a sample in order to be detected at a high level of confidence (99%). At the LOD, the false negative rate (Type II error) is 1%.

LOQ: The Limit of Quantitation is the minimum level, concentration, or quantity of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. This term is further clarified within the DoD QSM 4.2 as the lowest concentration that produces a quantitative result within specified limits of precision and bias.

*****: Exceeding quality control criteria are associated with the reported result.

B: The presence of a "B" to the right of an analytical value indicates that this compound was also detected in the method blank and the data should be interpreted with caution. One should consider the possibility that the correct sample result might be less than the reported result and, perhaps, zero.

D: When a sample (or sample extract) is rerun diluted because one of the compound concentrations exceeded the highest concentration range for the standard curve, all of the values obtained in the dilution run will be flagged with a "D".

E: The concentration for any compound found which exceeds the highest concentration level on the standard curve for that compound will be flagged with an "E". Usually the sample will be rerun at a dilution to quantitate the flagged compound. For Metals, the qualifier indicates that the serial dilution was outside of the control limits and the compound should be considered estimated due to the presence of interference.

H1: The result was analyzed outside of the EPA recommended holding time.

H2: The result was extracted outside of the EPA recommended holding time.

H3: The sample for this analyte was received outside of the EPA recommended holding time.

J: The presence of a "J" to the right of an analytical result indicates that the reported result is estimated. The mass spectral data pass the identification criteria showing that the compound is present, but the calculated result is less than the LOQ. One should feel confident that the result is greater than zero and less than the LOQ.

M: Indicates that the sample matrix interfered with the quantitation of the analyte. In dual column analysis the result is reported from the column with the lower concentration. In inorganics, it indicates that the parameters DL/LOD/LOQ have been raised.

N: The MS/MSD accuracy and/or precision are outside criteria. The predigested spike recovery is not within control limits for the associated parameter.

P: The associated numerical value is an estimated quantity. There is greater than a 40% difference between the two GC columns for the detected concentrations. The higher of the two values is reported unless matrix interference is obvious or for HPLC analysis where the primary column is reported.

Q: The relative percent difference (RPD) and/or percent recovery exceeded limits in the associated Blank Spike and/or Blank Spike Duplicate.

S: The associated internal standard exceeded criteria.

U: The presence of a "U" indicates that the analyte was analyzed for but was not detected or the concentration of the analyte quantitated below the DL.

X: The parameter shows a potential positive bias on a reported concentration due to an ICV or CCV exceeding the upper control limit on the high side.

Y: The parameter shows a potential negative bias on a reported concentration due to an ICV or CCV exceeding the lower control limit on the low side.

Z: The parameter shows lack of confirmation/detection, which may be due to a negative bias in the ICV or CCV which exceeds the lower control limit.

Chromatographic Flags for Manual Integration:

The following letters are used to denote manual integrations on the laboratory's raw data in association with chromatographic integrations:

A: The peak was manually integrated as it was not integrated in the original chromatogram.

B: The peak was manually integrated due to resolution or coelution issues in the original chromatogram.

C: The peak was manually integrated to correct the baseline from the original chromatogram.

D: The peak was manually integrated to identify the correct peak as the wrong peak was identified in the original chromatogram.

E: The peak was manually integrated to include the entire peak as the original chromatogram only integrated part of the peak.

LIMS Definitions / Naming Conventions:

The following are general naming conventions that are used throughout the laboratory; however, on a method by method basis, there are additional QAQC items that are named in a consistent format.

BLK: LIMS assigns a unique identifier to the Method Blank by naming it as the letters BLK

appended to the Batch ID. A Method Blank is an analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The Method Blank is used to assess for possible contamination during preparation and/or analysis steps. Method Blanks within a Batch or Analytical sequence will be appended with a numerical value beginning with 1 that will increase incrementally.

BS: LIMS assigns a unique identifier to the Blank Spike by naming it as the letters BS appended to the Batch ID. The Blank Spike or Lab Control Sample is a controlled analyte-free matrix, which is spiked with known and verified concentrations of target analytes. Spiking concentrations can be referenced in the method SOP. The BS is used to evaluate the viability of analytes taken through the entire prep (when applicable) and analytical process. Blank Spikes within a Batch or Analytical sequence will be appended with a numerical value beginning with 1 that will increase incrementally. A duplicate Blank Spike will be designated as a BSD.

MS: The LIMS assigns each Client sample with a unique identifier. The Matrix Spike is designated with a MS at the end of the sample's unique identifier. The Matrix Spike sample is used to assess the effect of the sample matrix on the precision and accuracy of the results generated using the selected method. A duplicate Matrix Spike will be designated as a MSD.

IDs: The LIMS assigns each Client sample with a unique identifier. The letter "RE" may potentially be appended to the end of the LIMS Sample ID. And "**RE"** implies that the sample was either re-prepped, re-analyzed straight, or re-analyzed at a dilution. Subsequent re-analysis for the sample will be appended with a numerical value beginning with 1 that will increase incrementally. Eg: RE1, RE2, RE3, etc.

Statement of Data Authenticity:

I certify that, based upon my inquiry of those individuals immediately responsible for obtaining the information and to the best of my knowledge, the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, with the exception of the conditions detailed in this Case Narrative, as verified by my signature below. During absences, the Data Quality Manager, Technical Directors or Project Managers are authorized to sign this Statement of Data Authenticity.



Mr. Rick D. Davis
Laboratory Technical Director / VP Operations

Empirical Laboratories, LLC
Certifications/Approvals
(Revised 02/06/2015)

DoD ELAP QSM5.0, Certificate Number L2226
- Aqueous
- Non-aqueous
- Expires: 11/30/2015

State of Florida, Department of Health – NELAP, Lab ID: E87646
- Clean Water Act
- RCRA/CERCLA
- Expires: 06/30/2015

State of Georgia, Environmental Protection Agency – NELAP, Self Certification
- Expires: 06/30/2015

State of Illinois, Environmental Protection Agency – NELAP, Certificate Number: 003464
- Groundwater
- Solid and Hazardous Waste
- Expires: 09/13/2015

Commonwealth of Kentucky, Energy and Environment Cabinet – WWLCP, Laboratory Number: 98017
- Wastewater
- Expires: 12/31/2015

Commonwealth of Kentucky, Department of Environmental Protection – UST, Certificate Number: 77
- Aqueous
- Non-aqueous
- Expires: 06/30/2015

State of New Jersey, Department of Environmental Protection – NELAP Primary, Lab ID: TN473
- Water Pollution
- Solid and Hazardous Waste
- Expires: 06/30/2015

State of North Carolina, Department of Environment and Natural Resources - Certificate Number: 643
- Aqueous
- Non-aqueous
- Expires: 12/31/2015

State of North Dakota, Department of Health – NELAP, Certificate No.: R-204
- Aqueous
- Non-aqueous
- Expires: 06/30/2015

Commonwealth of Pennsylvania, Department of Environmental Protection – NELAP, Lab ID: 68-05374
- Aqueous
- Non-aqueous
- Expires: 10/31/2015

State of Texas, Commission on Environmental Quality – NELAP, Certificate Number: T104704307-15-11
- Aqueous
- Non-aqueous
- Expires: 12/31/2015

State of Utah, Department of Health – NELAP, Certificate Number: TN0042014-6
- Aqueous
- Non-aqueous
- Expires: 07/31/2015

Commonwealth of Virginia, Department of General Services – NELAP, Certificate Number: 7596, Lab ID: 460243
- Aqueous
- Non-aqueous
- Expires: 12/14/2015

State of Washington, Department of Ecology – NELAP, Lab ID: C934-14
- Groundwater
- Solid and Hazardous Waste
- Expires: 03/18/2015

ORGANIC CALCULATIONS

GC/MS Volatiles

$$\text{Final Concentration} = \frac{\text{On-column(ug/L or ug/Kg) * Expected Vol/Weight (mL or g) * Dilution}}{\text{Initial Vol/Weight (mL or g) * (Percent Solids/100) (if applicable)}}$$

Note - Expected Vol/Weight value is found in "Final Vol" column of Preparation Batch Summary.

GC/MS Extractables

$$\text{Final Concentration} = \frac{\text{On-column(ng/uL) * Final Vol (ml) * Dilution *(1000uL/mL)}}{\text{Initial Vol/Weight (mL or g) * (Percent Solids/100) (if applicable)}}$$

= ng/mL or ng/g

= ug/L or ug/kg

GC or LC Extractables

$$\text{Final Concentration} = \frac{\text{On-column(ng/mL) * Final Vol (mL) * Dilution}}{\text{Initial Vol/Weight (mL or g) * (Percent Solids/100) (if applicable)}}$$

= ng/mL or ng/g

= ug/L or ug/kg

Sample Receipt Information

1501134
1501134 TH 1/30/15

EMPIRICAL LABORATORIES, LLC - CHAIN OF CUSTODY RECORD

23326

SHIP TO: 621 Mainstream Drive, Suite 270 ♦ Nashville, TN 37228 ♦ 877-345-1113 ♦ (fax) 866-417-0548

Send Results to:	Send Invoice to:
Name Eric Malavet	Name
Company CBI Fed. Serv.	Company
Address 4696 Millennium Dr	Address
City Belcamp	City
State, Zip MD 21017	State, Zip
Phone	Phone
Fax	Fax
E-mail	E-mail

Project No./Name: Sump 45/49 MNA

Sampler's (Signature):

Analysis Requirements: VOC (HCl), RSK (HCl), Anion, TOC (Alkseq), TAL Metals, COD, pH

Lab Use Only:

VOA Headspace	Y	N	NA
Field Filtered	Y	N	NA
Correct Containers	Y	N	NA
Discrepancies	Y	N	NA
Cust. Seals Intact	Y	N	NA
Containers Intact	Y	N	NA

Airbill #:

CAR #:

Lab Use Only Lab #	Date/Time Sampled	Sample Description	Sample Matrix	VOC (HCl)	RSK (HCl)	Anion	TOC (Alkseq)	TAL Metals	COD	pH	Comments	No. of Bottles	Lab Use Only Containers/Pres.
01	1/29 800	Rinseblank	GW	2								2	
02	1/29 925	48MW07	GW	3								3	
03	1/29 1135	48MW06	GW	3	2	1	1					7	
04	1/29 1245	ADW01	GW	3				1	1	1		6	
													1

Relinquished by: (Signature)	Date/Time: 1/29 1500	Received By: (Signature)	REMARKS:
Relinquished by: (Signature)	Date/Time:	Received By: (Signature)	
Received for Laboratory by: (Signature)	Date/Time: 1/30/15 835	Temperature: 1.9	

Details:
Page 1 of 1
Cooler No. 1 of 1
Date Shipped 1/29
Shipped By JH
Turnaround Standard

Distribution: Original and yellow copies accompany sample shipment to laboratory; Pink retained by samplers.

1501134

II. EMPIRICAL LABORATORIES
COOLER RECEIPT FORM

Cooler Received/Opened On: 01/30/15 @0835 Workorder# 1501134

1. Tracking # 5524 (last 4 digits, FedEx)

   Courier: FedEx

2. Temperature of rep. sample or temp blank when opened: 1.9 °C + correction factor(-0.0) = 1.9 °C

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES (NO) NA

4. Were custody seals on outside of cooler? (YES) NO NA

   If yes, how many and where: 2 front

5. Were the seals intact, signed, and dated correctly? (YES) NO NA

6. Were custody papers inside cooler? (YES) NO NA

   I certify that I opened the cooler and answered questions 1-6 (initial/date) TH 1/30/15

7. Were custody seals on containers: YES (NO) and Intact YES NO (NA)

   Were these signed and dated correctly? YES NO (NA)

8. Packing material used? Bubblewrap (Plastic bag) Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: (Ice) Ice-pack Ice (direct contact) Dry Ice Other None

10. Did all containers arrive in good condition (unbroken)? (YES) NO NA

11. Were all container labels complete (#, date, signed, pres., etc)? (YES) NO NA

12. Did all container labels and tags agree with custody papers? (YES) NO NA

13. a. Were VOA vials received? (YES) NO NA

    b. Was there observable headspace present in any VOA vial (>5mm-6mm)? YES (NO) NA

14. Was there a Trip Blank in this cooler (custody seals present/intact)? (YES) NO NA Comments_____
    If multiple coolers, sequence #_____

    I certify that I unloaded the cooler and answered questions 7-14 (initial/date) TH 1/30/15

15. a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? (YES) NO NA

    b. Did the bottle labels indicate that the correct preservatives were used? (YES) NO NA

16. Was residual chlorine present? YES NO (NA)

    I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial/date) TH 1/30/15

17. Were custody papers properly filled out (ink, signed, etc)? (YES) NO NA

18. Did you sign the custody papers in the appropriate place? (YES) NO NA

19. Were correct containers used for the analysis requested? (YES) NO NA If not, PM notified? YES NO (NA)

20. Was sufficient amount of sample sent in each container? (YES) NO NA If not, PM notified? YES NO (NA)

21. Were there Non-Conformance issues at login? YES (NO) NCR#_____

I certify that I entered this project into LIMS and answered questions 17-21 (initial/date) TH 1/30/15

I certify that I attached a label with the unique LIMS number to each container (initial/date) TH 1/30/15

I certify that I notified the laboratory of any short holding time or RUSH parameters (initial/date) TH 1/30/15

C:\Users\jgross\Desktop\Cooler Receipt Updated 2014.doc

II. EMPIRICAL LABORATORIES
COOLER RECEIPT FORM (Continued)

Workorder# 1501134

LIMS Data Entry Second Check

22. Cooler Receipt Form Issues reviewed and communicated to PM? YES...NO...(NA)

23. Client and Project verified to match the COC/CRF in LIMS Project Screen? (YES)...NO...NA

24. Following items verified to items verified to match the COC/CRF in LIMS Receipt Screen:

a. Received Date/Received By (YES)...NO...NA

b. TAT (COC specified different?) (YES)...NO...NA

c. Shipping Container Temperatures (corrected temps) (YES)...NO ...NA

d. Condition Items (seals, intact, labels, preservation, ROI) (YES)...NO...NA

25. Following LIMS Sample Information verified against COC for each sample:

a. Name (YES)...NO...NA

b. QC Source YES...NO...(NA)

c. Matrix (YES)...NO...NA

d. Sample Type (YES)...NO...NA

e. Sampled Date/Time (Correct Time Zone) (YES)...NO...NA

f. Work Analyses/Versions (if applicable) (YES)...NO...NA

g. Sample Issues Included in comments (limited volume, concentration warnings, etc.)? YES...NO...(NA)

h. Unpreserved VOA holding time set to 7 days? YES...NO...(NA)

26. Containers consistent with tests requested? (YES)...NO...NA

27. Field data entered and matching COC? (YES)...NO...NA

I certify that I have verified the LIMS data entry and answered questions 23-27 above (initial/date): JTG 1/30/15

Additional Details:

III. EMPIRICAL LABORATORIES, LLC
DATA ENTRY VERIFICATION FORM – PROJECT MANAGEMENT

Workorder#: 1501134

	Verification Item	Yes	No	NA
1.	**Cooler Receipt Form Issues reviewed and communicated to client**			X
2.	**Element/ Project Screen/items verified to match the COC/CRF:**			
a.	**Client/Project**	X		
b.	Comments requiring laboratory reminder?			X
c.	Client and/or Project Memo requiring laboratory reminder?			X
3.	**Receipt Screen items verified to match the COC/CRF:**			
a.	Received Date/Received By	X		
b.	Workorder Due Date	X		
c.	Package Due Date	X		
d.	TAT	X		
e.	SDG Identifier Populated	X		
4.	**Sample Information verified against COC for each sample:**			
a.	Name	X		
b.	QC Source			X
c.	Matrix	X		
d.	Sample Type	X		
e.	Sampled Date/Time (Correct Time Zone)	X		
f.	Work Analyses/Versions	X		
g.	Sample Issues included in comments	X		
h.	Unpreserved VOA holding time set to 7 days			X
5.	**Containers consistent with tests requested**	X		
6.	**Field data entered and matching COC, if applicable**			X
	I certify that I have performed a second check of the LIMS information against the COC to confirm accuracy (initial/date):	1/30/2015		

Sonya Gordon

From: Malarek, Eric <Eric.Malarek@CBIFederalServices.com>
Sent: Monday, February 02, 2015 10:33 AM
To: sgordon@empirlabs.com
Cc: Hillebrand, Jeffrey; Malarek, Eric
Subject: FW: Radford sample receipt
Attachments: 1501116_SRC.pdf; 1501124_SRC.pdf; 1501134_SRC.pdf

Sonya,
Thanks for the logins, in review, please cancel the TCL VOCs analysis noted for sample ADW01 (1501134-04). Not needed for this sample. All else is fine. Thanks.

Eric

Eric Malarek
Sr Scientist - Scientist 4
Federal Services
Tel: +1 (410) 273-7233
eFax: +1 (225) 952-3016
Main: +1 (410) 273-7100
eric.malarek@cbifederalservices.com

CB&I Federal Services, LLC
4696 Millennium Drive, Suite 320
Belcamp, MD 21017
U.S.A.
www.CBI.com

From: Sonya Gordon [mailto:sgordon@empirlabs.com]
Sent: Friday, January 30, 2015 5:56 PM
To: Malarek, Eric
Subject: Radford sample receipt

Attached are the SRCs for samples received 1/28/15, 1/29/15, and 1/30/15.

1 vial for the MS/MSD for sample 48MW3 was received broken. This shouldn't cause any issues.

1 vial for Trip blank 14-0840 (1/28/15 8:00) was received broken. The analysts have been informed of the limited volume and to be extremely careful when analyzing.

Sonya Gordon
Project Manager
Empirical Laboratories, LLC
"Your National Small Business Partner"
621 Mainstream Drive, Suite 270 l Nashville, TN 37228 l Website l Map & Directions

Main: 615.345.1115 ext. 238 l Toll free: 877.345.1113 l Fax: 866.417.0548

Your opinion is valuable to us. Please click here to provide us your feedback.

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1501134

Empirical Laboratories, LLC

Client: CB&I
Project: Radford AAP

Project Manager: Sonya Gordon
Project Number: CBI_RAAP

Report To:
CB&I
Eric Malarek
4696 Millennium Drive, Suite 320
Belcamp, MD 21017
Phone: (410) 273-7233
Fax: (410) 273-7103

Invoice To:
CB&I
Accounts Payable
PO Box 98519
Baton Rouge, LA 70884
Phone :(225) 932-2500
Fax: (225) 932-2661

Due to Client: 02/20/2015 16:00 *This is the projected due date to the client, at the time of receipt, and is for report delivery via upload, and/or email, and/or shipment to meet TAT as setup by project*

Received By: Tiana L. Hutchings
Date Received: 01/30/2015 08:35
Logged In By: Tiana L. Hutchings
Date Logged In: 01/30/2015 09:01

Samples Received at: **1.9°C**
Custody Seals: No
Received On Ice: Yes
Containers Intact: Yes
COC/Labels Agree: Yes
Preservation Confirme: Yes

Method	Test Code	Due	TAT	Expires	Comments
1501134-01 Rinse Blank [Water] Sampled 01/29/2015 08:00 Eastern 'Equipment Rinsate'					
SW8260B	VOC_8260B_REG	02/17/2015 14:00	15	02/12/2015 07:00	
1501134-02 48MW07 [Water] Sampled 01/29/2015 09:25 Eastern 'Client Sample'					
SW8260B	VOC_8260B_REG	02/17/2015 14:00	15	02/12/2015 08:25	
1501134-03 48MW06 [Water] Sampled 01/29/2015 11:35 Eastern 'Client Sample'					
SW9060A	WC_TOC_9060A_QUAD	02/17/2015 14:00	15	02/26/2015 10:35	
SW9056A	WC_ANIONS_9056A (Short Hold)	02/17/2015 14:00	15	01/31/2015 10:35	
SW9056A	WC_ANIONS_9056A (Regular)	02/17/2015 14:00	15	02/26/2015 10:35	
SW8260B	VOC_8260B_REG	02/17/2015 14:00	15	02/12/2015 10:35	
RSK175	VGC_RSK175_MEE	02/17/2015 14:00	15	02/12/2015 10:35	
1501134-04 ADW01 [Water] Sampled 01/29/2015 12:45 Eastern 'Client Sample'					
SW9040C	WC_PH_9040C	02/17/2015 14:00	15	01/29/2015 11:59	
E410.4	WC_COD_410.4	02/17/2015 14:00	15	02/26/2015 11:45	
SW6010C	MET_ICP_6010C_FULL	02/17/2015 14:00	15	07/28/2015 11:45	
SW7470A	MET_7470A_MERCURY	02/17/2015 14:00	15	02/26/2015 11:45	

Reviewed By

Date

Sample Delivery Group Assignment Form

CLIENT: CB&I
PROJECT NAME: Radford AAP
SDG #: 1501134

QC LEVEL: Level IV
Report Due: 2/20/2015
Client Sample Count: 3

Sample Type	Sampled	Received	Lab ID	Client ID	Report Matrix	E410.4	RSK175	SW6010C	SW7470A	SW8260B	SW9040C	SW9056A	SW9060A
Trip Blank	1/29/2015	1/30/2015	1501134-01	Trip Blank	Water					X			
Client Sample	1/29/2015	1/30/2015	1501134-02	48MW07	Water					X			
Client Sample	1/29/2015	1/30/2015	1501134-03	48MW06	Water		X			X		X	X
Client Sample	1/29/2015	1/30/2015	1501134-04	ADW01	Water	X		X	X		X		

Data for SW8260B
Forms

Sample Extraction Data

Prep Method: 5030B-SW8260B

Lab Number [Field ID]	Batch	Nominal Initial/Final	Initial [mL]	Final [mL]	Dilution	% Solids	Notes	Date
1501134-01RE1 [Trip Blank]	5B11007	5.00/5.00	5.00	5.00	1.00			02/11/15
1501134-02RE1 [48MW07]	5B11007	5.00/5.00	5.00	5.00	1.00			02/11/15
1501134-03RE1 [48MW06]	5B11007	5.00/5.00	5.00	5.00	2.00			02/11/15

ANALYSIS DATA SHEET

Trip Blank

Laboratory: Empirical Laboratories, LLC SDG: 1501134

Client: CB&I Project: Radford AAP

Matrix: Water Laboratory ID: 1501134-01RE1 File ID: 0113401B.D

Sampled: 01/29/15 08:00 Prepared: 02/11/15 12:36 Analyzed: 02/11/15 12:36

Solids: Preparation: 5030B Dilution: 1

Batch: 5B11007 Sequence: 5B04309 Calibration: 4295001 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	U
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	UX
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	UX
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U
95-47-6	o-Xylene		0.250	0.500	1.00	U

Total Target Analytes Reported 35 Project Analytes: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	29.40	98.0	75 - 120	
Dibromofluoromethane	30.00	30.64	102	85 - 115	
1,2-Dichloroethane-d4	30.00	28.68	95.6	70 - 120	

ANALYSIS DATA SHEET

Trip Blank

Laboratory:	Empirical Laboratories, LLC			SDG:	1501134
Client:	CB&I			Project:	Radford AAP
Matrix:	Water	Laboratory ID:	1501134-01RE1	File ID:	0113401B.D
Sampled:	01/29/15 08:00	Prepared:	02/11/15 12:36	Analyzed:	02/11/15 12:36
Solids:		Preparation:	5030B	Dilution:	1
Batch:	5B11007	Sequence:	5B04309	Calibration:	4295001
Instrument:	MS-VOA3				

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	28.67	95.6	85 - 120	

ANALYSIS DATA SHEET

48MW07

Laboratory: Empirical Laboratories, LLC SDG: 1501134

Client: CB&I Project: Radford AAP

Matrix: Water Laboratory ID: 1501134-02RE1 File ID: 0113402C.D

Sampled: 01/29/15 09:25 Prepared: 02/11/15 13:26 Analyzed: 02/11/15 13:26

Solids: Preparation: 5030B Dilution: 1

Batch: 5B11007 Sequence: 5B04309 Calibration: 4295001 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	U
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	UX
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	UX
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U
95-47-6	o-Xylene		0.250	0.500	1.00	U

Total Target Analytes Reported 35 Project Analytes: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	28.49	95.0	75 - 120	
Dibromofluoromethane	30.00	31.45	105	85 - 115	
1,2-Dichloroethane-d4	30.00	28.59	95.3	70 - 120	

ANALYSIS DATA SHEET

48MW07

Laboratory:	Empirical Laboratories, LLC			SDG:	1501134
Client:	CB&I			Project:	Radford AAP
Matrix:	Water	Laboratory ID:	1501134-02RE1	File ID:	0113402C.D
Sampled:	01/29/15 09:25	Prepared:	02/11/15 13:26	Analyzed:	02/11/15 13:26
Solids:		Preparation:	5030B	Dilution:	1
Batch:	5B11007	Sequence:	5B04309	Calibration:	4295001
Instrument:	MS-VOA3				

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	27.66	92.2	85 - 120	

ANALYSIS DATA SHEET

48MW06

Laboratory: Empirical Laboratories, LLC SDG: 1501134

Client: CB&I Project: Radford AAP

Matrix: Water Laboratory ID: 1501134-03RE1 File ID: 0113403C.D

Sampled: 01/29/15 11:35 Prepared: 02/11/15 13:51 Analyzed: 02/11/15 13:51

Solids: Preparation: 5030B Dilution: 2

Batch: 5B11007 Sequence: 5B04309 Calibration: 4295001 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone	**27.8**	5.00	10.0	20.0	D
71-43-2	Benzene		0.500	1.00	2.00	U
75-27-4	Bromodichloromethane		0.500	1.00	2.00	U
75-25-2	Bromoform		0.500	1.00	2.00	UX
74-83-9	Bromomethane		1.00	2.00	4.00	U
78-93-3	2-Butanone		5.00	10.0	20.0	U
75-15-0	Carbon disulfide		0.500	1.00	2.00	U
56-23-5	Carbon tetrachloride		0.500	1.00	2.00	UX
108-90-7	Chlorobenzene		0.500	1.00	2.00	U
75-00-3	Chloroethane		1.00	2.00	4.00	U
67-66-3	Chloroform		0.500	1.00	2.00	U
74-87-3	Chloromethane		0.500	1.00	2.00	U
124-48-1	Dibromochloromethane		0.500	1.00	2.00	U
75-34-3	1,1-Dichloroethane	**4.28**	0.500	1.00	2.00	D
107-06-2	1,2-Dichloroethane		0.500	1.00	2.00	U
75-35-4	1,1-Dichloroethene		0.500	1.00	2.00	U
156-59-2	cis-1,2-Dichloroethene	**4.86**	0.500	1.00	2.00	D
156-60-5	trans-1,2-Dichloroethene		0.500	1.00	2.00	U
78-87-5	1,2-Dichloropropane		0.500	1.00	2.00	U
10061-01-5	cis-1,3-Dichloropropene		0.500	1.00	2.00	U
10061-02-6	trans-1,3-Dichloropropene		0.500	1.00	2.00	U
100-41-4	Ethylbenzene		0.500	1.00	2.00	U
591-78-6	2-Hexanone		2.50	5.00	10.0	U
75-09-2	Methylene chloride		1.00	2.00	4.00	U
108-10-1	4-Methyl-2-pentanone		2.50	5.00	10.0	U
100-42-5	Styrene		0.500	1.00	2.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.500	1.00	2.00	U
127-18-4	Tetrachloroethene	**0.709**	0.500	1.00	2.00	JD
108-88-3	Toluene		0.500	1.00	2.00	U
79-00-5	1,1,2-Trichloroethane		0.500	1.00	2.00	U
71-55-6	1,1,1-Trichloroethane	**0.691**	0.500	1.00	2.00	JD
79-01-6	Trichloroethene	**3.29**	0.500	1.00	2.00	D
75-01-4	Vinyl chloride		0.500	1.00	2.00	U
108-38-3/106-42-	m,p-Xylene		1.00	2.00	4.00	U
95-47-6	o-Xylene		0.500	1.00	2.00	U

Total Target Analytes Reported 35 Project Analytes: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	28.66	95.5	75 - 120	
Dibromofluoromethane	30.00	31.14	104	85 - 115	
1,2-Dichloroethane-d4	30.00	30.44	101	70 - 120	

ANALYSIS DATA SHEET

48MW06

Laboratory:	Empirical Laboratories, LLC			SDG:	1501134
Client:	CB&I			Project:	Radford AAP
Matrix:	Water	Laboratory ID:	1501134-03RE1	File ID:	0113403C.D
Sampled:	01/29/15 11:35	Prepared:	02/11/15 13:51	Analyzed:	02/11/15 13:51
Solids:		Preparation:	5030B	Dilution:	1
Batch:	5B11007	Sequence:	5B04309	Calibration:	4295001
Instrument:	MS-VOA3				

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	29.48	98.3	85 - 120	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Sequence: 5B04309
Instrument: MS-VOA3
Calibration: 4295001

Surrogate Compound	Spike Level	% Recovery	Recovery Limits	RT	CCV RT	RT Diff	RT Diff Limit	Q
Calibration Check (5B04309-CCV1) ug/L				Lab File ID: 0211CCV1.D		Analyzed: 02/11/15 08:42		
Bromofluorobenzene	30.00	100	80 - 120	11.337	11.337	0.0000	+/-1.000	
Dibromofluoromethane	30.00	103	80 - 120	5.788	5.788	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	96.5	80 - 120	6.324	6.324	0.0000	+/-1.000	
Toluene-d8	30.00	94.0	80 - 120	8.642	8.642	0.0000	+/-1.000	
LCS (5B11007-BS1) ug/L				Lab File ID: 0211LC1.D		Analyzed: 02/11/15 09:40		
Bromofluorobenzene	30.00	105	75 - 120	11.337	11.337	0.0000	+/-1.000	
Dibromofluoromethane	30.00	99.8	85 - 115	5.788	5.788	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	99.6	70 - 120	6.324	6.324	0.0000	+/-1.000	
Toluene-d8	30.00	95.3	85 - 120	8.642	8.642	0.0000	+/-1.000	
Blank (5B11007-BLK1) ug/L				Lab File ID: 0211BLK1.D		Analyzed: 02/11/15 11:21		
Bromofluorobenzene	30.00	96.2	75 - 120	11.337	11.337	0.0000	+/-1.000	
Dibromofluoromethane	30.00	100	85 - 115	5.788	5.788	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	98.5	70 - 120	6.318	6.324	-0.0060	+/-1.000	
Toluene-d8	30.00	94.4	85 - 120	8.642	8.642	0.0000	+/-1.000	
Trip Blank (1501134-01RE1) ug/L				Lab File ID: 0113401B.D		Analyzed: 02/11/15 12:36		
Bromofluorobenzene	30.00	98.0	75 - 120	11.337	11.337	0.0000	+/-1.000	
Dibromofluoromethane	30.00	102	85 - 115	5.794	5.788	0.0060	+/-1.000	
1,2-Dichloroethane-d4	30.00	95.6	70 - 120	6.318	6.324	-0.0060	+/-1.000	
Toluene-d8	30.00	95.6	85 - 120	8.642	8.642	0.0000	+/-1.000	
48MW07 (1501134-02RE1) ug/L				Lab File ID: 0113402C.D		Analyzed: 02/11/15 13:26		
Bromofluorobenzene	30.00	95.0	75 - 120	11.337	11.337	0.0000	+/-1.000	
Dibromofluoromethane	30.00	105	85 - 115	5.788	5.788	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	95.3	70 - 120	6.318	6.324	-0.0060	+/-1.000	
Toluene-d8	30.00	92.2	85 - 120	8.642	8.642	0.0000	+/-1.000	
48MW06 (1501134-03RE1) ug/L				Lab File ID: 0113403C.D		Analyzed: 02/11/15 13:51		
Bromofluorobenzene	30.00	95.5	75 - 120	11.337	11.337	0.0000	+/-1.000	
Dibromofluoromethane	30.00	104	85 - 115	5.789	5.788	0.0010	+/-1.000	
1,2-Dichloroethane-d4	30.00	101	70 - 120	6.324	6.324	0.0000	+/-1.000	
Toluene-d8	30.00	98.3	85 - 120	8.642	8.642	0.0000	+/-1.000	

LCS / LCS DUPLICATE RECOVERY

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Matrix: Water
Batch: 5B11007
Laboratory ID: 5B11007-BS1
Preparation: 5030B
Initial/Final: 5 mL / 5 mL

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	QC LIMITS REC.
Acetone	100.0	132	132	40 - 140
Benzene	50.00	45.1	90.2	80 - 120
Bromodichloromethane	50.00	49.2	98.4	75 - 120
Bromoform	50.00	56.2	112	70 - 130
Bromomethane	50.00	49.7	99.3	30 - 145
2-Butanone	100.0	104	104	30 - 150
Carbon disulfide	50.00	43.2	86.4	35 - 160
Carbon tetrachloride	50.00	56.0	112	65 - 140
Chlorobenzene	50.00	42.1	84.3	80 - 120
Chloroethane	50.00	44.6	89.2	60 - 135
Chloroform	50.00	46.3	92.7	65 - 135
Chloromethane	50.00	49.7	99.4	40 - 125
Dibromochloromethane	50.00	47.5	94.9	60 - 135
1,1-Dichloroethane	50.00	48.3	96.5	70 - 135
1,2-Dichloroethane	50.00	52.4	105	70 - 130
1,1-Dichloroethene	50.00	43.1	86.2	70 - 130
cis-1,2-Dichloroethene	50.00	43.4	86.7	70 - 125
trans-1,2-Dichloroethene	50.00	41.1	82.1	60 - 140
1,2-Dichloropropane	50.00	44.6	89.2	75 - 125
cis-1,3-Dichloropropene	50.00	55.4	111	70 - 130
trans-1,3-Dichloropropene	50.00	47.5	95.0	55 - 140
Ethylbenzene	50.00	47.5	95.1	75 - 125
2-Hexanone	100.0	99.4	99.4	55 - 130
Methylene chloride	50.00	45.0	90.0	55 - 140
4-Methyl-2-pentanone	100.0	93.3	93.3	60 - 135
Styrene	50.00	50.7	101	65 - 135
1,1,2,2-Tetrachloroethane	50.00	44.0	88.0	65 - 130
Tetrachloroethene	50.00	47.8	95.7	45 - 150
Toluene	50.00	43.2	86.4	75 - 120
1,1,2-Trichloroethane	50.00	39.9	79.9	75 - 125

LCS / LCS DUPLICATE RECOVERY

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134
Client:	CB&I	Project:	Radford AAP
Matrix:	Water		
Batch:	5B11007	Laboratory ID:	5B11007-BS1
Preparation:	5030B	Initial/Final:	5 mL / 5 mL

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	QC LIMITS REC.
1,1,1-Trichloroethane	50.00	51.1	102	65 - 130
Trichloroethene	50.00	44.1	88.2	70 - 125
Vinyl chloride	50.00	54.8	110	50 - 145
m,p-Xylene	100.0	98.0	98.0	75 - 130
o-Xylene	50.00	48.6	97.3	80 - 120

PREPARATION BATCH SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC SDG: 1501134

Client: CB&I Project: Radford AAP

Batch: 5B11007 Batch Matrix: Water Preparation: 5030B

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
Trip Blank	1501134-01RE1	02/11/15 12:36	5.00	5.00
48MW07	1501134-02RE1	02/11/15 13:26	5.00	5.00
48MW06	1501134-03RE1	02/11/15 13:51	5.00	5.00
Blank	5B11007-BLK1	02/11/15 11:21	5.00	5.00
LCS	5B11007-BS1	02/11/15 09:40	5.00	5.00

ANALYSIS DATA SHEET

Blank

Laboratory: Empirical Laboratories, LLC SDG: 1501134

Client: CB&I Project: Radford AAP

Matrix: Laboratory ID: 5B11007-BLK1 File ID: 0211BLK1.D

Sampled: Prepared: Analyzed: 02/11/15 11:21

Solids: Preparation: 5030B Dilution:

Batch: 5B11007 Sequence: 5B04309 Calibration: 4295001 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone		2.50	5.00	10.0	U
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	U
75-25-2	Bromoform		0.250	0.500	1.00	UX
74-83-9	Bromomethane		0.500	1.00	2.00	U
78-93-3	2-Butanone		2.50	5.00	10.0	U
75-15-0	Carbon disulfide		0.250	0.500	1.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	UX
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
591-78-6	2-Hexanone		1.25	2.50	5.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
108-10-1	4-Methyl-2-pentanone		1.25	2.50	5.00	U
100-42-5	Styrene		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.250	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U
95-47-6	o-Xylene		0.250	0.500	1.00	U

Total Target Analytes Reported: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	28.86	96.2	75 - 120	
Dibromofluoromethane	30.00	30.13	100	85 - 115	
1,2-Dichloroethane-d4	30.00	29.55	98.5	70 - 120	

ANALYSIS DATA SHEET

Blank

Laboratory: Empirical Laboratories, LLC SDG: 1501134

Client: CB&I Project: Radford AAP

Matrix: Laboratory ID: 5B11007-BLK1 File ID: 0211BLK1.D

Sampled: Prepared: Analyzed: 02/11/15 11:21

Solids: Preparation: 5030B Dilution:

Batch: 5B11007 Sequence: 5B04309 Calibration: 4295001 Instrument: MS-VOA3

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	28.31	94.4	85 - 120	

ANALYSIS DATA SHEET

LCS

Laboratory: Empirical Laboratories, LLC SDG: 1501134

Client: CB&I Project: Radford AAP

Matrix: Laboratory ID: 5B11007-BS1 File ID: 0211LC1.D

Sampled: Prepared: Analyzed: 02/11/15 09:40

Solids: Preparation: 5030B Dilution:

Batch: 5B11007 Sequence: 5B04309 Calibration: 4295001 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
67-64-1	Acetone	**132**	2.50	5.00	10.0	
71-43-2	Benzene	**45.1**	0.250	0.500	1.00	
75-27-4	Bromodichloromethane	**49.2**	0.250	0.500	1.00	
75-25-2	Bromoform	**56.2**	0.250	0.500	1.00	X
74-83-9	Bromomethane	**49.7**	0.500	1.00	2.00	
78-93-3	2-Butanone	**104**	2.50	5.00	10.0	
75-15-0	Carbon disulfide	**43.2**	0.250	0.500	1.00	
56-23-5	Carbon tetrachloride	**56.0**	0.250	0.500	1.00	X
108-90-7	Chlorobenzene	**42.1**	0.250	0.500	1.00	
75-00-3	Chloroethane	**44.6**	0.500	1.00	2.00	
67-66-3	Chloroform	**46.3**	0.250	0.500	1.00	
74-87-3	Chloromethane	**49.7**	0.250	0.500	1.00	
124-48-1	Dibromochloromethane	**47.5**	0.250	0.500	1.00	
75-34-3	1,1-Dichloroethane	**48.3**	0.250	0.500	1.00	
107-06-2	1,2-Dichloroethane	**52.4**	0.250	0.500	1.00	
75-35-4	1,1-Dichloroethene	**43.1**	0.250	0.500	1.00	
156-59-2	cis-1,2-Dichloroethene	**43.4**	0.250	0.500	1.00	
156-60-5	trans-1,2-Dichloroethene	**41.1**	0.250	0.500	1.00	
78-87-5	1,2-Dichloropropane	**44.6**	0.250	0.500	1.00	
10061-01-5	cis-1,3-Dichloropropene	**55.4**	0.250	0.500	1.00	
10061-02-6	trans-1,3-Dichloropropene	**47.5**	0.250	0.500	1.00	
100-41-4	Ethylbenzene	**47.5**	0.250	0.500	1.00	
591-78-6	2-Hexanone	**99.4**	1.25	2.50	5.00	
75-09-2	Methylene chloride	**45.0**	0.500	1.00	2.00	
108-10-1	4-Methyl-2-pentanone	**93.3**	1.25	2.50	5.00	
100-42-5	Styrene	**50.7**	0.250	0.500	1.00	
79-34-5	1,1,2,2-Tetrachloroethane	**44.0**	0.250	0.500	1.00	
127-18-4	Tetrachloroethene	**47.8**	0.250	0.500	1.00	
108-88-3	Toluene	**43.2**	0.250	0.500	1.00	
79-00-5	1,1,2-Trichloroethane	**39.9**	0.250	0.500	1.00	
71-55-6	1,1,1-Trichloroethane	**51.1**	0.250	0.500	1.00	
79-01-6	Trichloroethene	**44.1**	0.250	0.500	1.00	
75-01-4	Vinyl chloride	**54.8**	0.250	0.500	1.00	
108-38-3/106-42-	m,p-Xylene	**98.0**	0.500	1.00	2.00	
95-47-6	o-Xylene	**48.6**	0.250	0.500	1.00	

Total Target Analytes Reported: 35

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	31.50	105	75 - 120	
Dibromofluoromethane	30.00	29.93	99.8	85 - 115	
1,2-Dichloroethane-d4	30.00	29.87	99.6	70 - 120	

ANALYSIS DATA SHEET

LCS

Laboratory: Empirical Laboratories, LLC SDG: 1501134

Client: CB&I Project: Radford AAP

Matrix: Laboratory ID: 5B11007-BS1 File ID: 0211LC1.D

Sampled: Prepared: Analyzed: 02/11/15 09:40

Solids: Preparation: 5030B Dilution:

Batch: 5B11007 Sequence: 5B04309 Calibration: 4295001 Instrument: MS-VOA3

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Toluene-d8	30.00	28.59	95.3	85 - 120	

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134
Client:	CB&I	Project:	Radford AAP
Lab File ID:	1016TU1.D	Injection Date:	10/16/14
Instrument ID:	MS-VOA3	Injection Time:	12:01
Sequence:	4J29412	Lab Sample ID:	4J29412-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	25.7	PASS
75	30 - 60% of 95	50.1	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	7.04	PASS
173	Less than 2% of 174	1.47	PASS
174	50 - 200% of 95	85.5	PASS
175	5 - 9% of 174	8.22	PASS
176	95 - 101% of 174	97	PASS
177	5 - 9% of 176	6.57	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134
Client:	CB&I	Project:	Radford AAP
Lab File ID:	0211TUN1.D	Injection Date:	02/11/15
Instrument ID:	MS-VOA3	Injection Time:	08:13
Sequence:	5B04309	Lab Sample ID:	5B04309-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	24.5	PASS
75	30 - 60% of 95	49.8	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.53	PASS
173	Less than 2% of 174	1.35	PASS
174	50 - 200% of 95	85.8	PASS
175	5 - 9% of 174	8.66	PASS
176	95 - 101% of 174	96.9	PASS
177	5 - 9% of 176	7.33	PASS

ANALYSIS SEQUENCE SUMMARY

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134
Client:	CB&I	Project:	Radford AAP
Sequence:	4J29412	Instrument:	MS-VOA3
Calibration:	4295001		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	4J29412-TUN1	1016TU1.D	10/16/14 12:01
Cal Standard	4J29412-CAL1	1016CAL1.D	10/16/14 13:21
Cal Standard	4J29412-CAL2	1016CAL2.D	10/16/14 13:46
Cal Standard	4J29412-CAL3	1016CAL3.D	10/16/14 14:11
Cal Standard	4J29412-CAL4	1016CAL4.D	10/16/14 14:36
Cal Standard	4J29412-CAL5	1016CAL5.D	10/16/14 15:01
Cal Standard	4J29412-CAL6	1016CAL6.D	10/16/14 15:26
Cal Standard	4J29412-CAL7	1016CAL7.D	10/16/14 15:51
Cal Standard	4J29412-CAL8	1016CAL8.D	10/16/14 16:16
Cal Standard	4J29412-CAL9	1016CAL9.D	10/16/14 16:41
Initial Cal Check	4J29412-ICV2	1016ICV2.D	10/16/14 17:56

ANALYSIS SEQUENCE SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Sequence: 5B04309
Instrument: MS-VOA3
Calibration: 4295001

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	5B04309-TUN1	0211TUN1.D	02/11/15 08:13
Calibration Check	5B04309-CCV1	0211CCV1.D	02/11/15 08:42
LCS	5B11007-BS1	0211LC1.D	02/11/15 09:40
Blank	5B11007-BLK1	0211BLK1.D	02/11/15 11:21
Trip Blank	1501134-01RE1	0113401B.D	02/11/15 12:36
48MW07	1501134-02RE1	0113402C.D	02/11/15 13:26
48MW06	1501134-03RE1	0113403C.D	02/11/15 13:51

INTERNAL STANDARD AREA AND RT SUMMARY
SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Sequence: 5B04309
Instrument: MS-VOA3
Calibration: 4295001

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (5B04309-CCV1)			Lab File ID: 0211CCV1.D				Analyzed: 02/11/15 08:42		
Fluorobenzene	907860	6.865	928682	6.865	98	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	396816	10.114	373192	10.114	106	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	354026	12.547	347318	12.547	102	50 - 200	0.0000	+/-0.50	
LCS (5B11007-BS1)			Lab File ID: 0211LC1.D				Analyzed: 02/11/15 09:40		
Fluorobenzene	954304	6.865	928682	6.865	103	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	413291	10.114	373192	10.114	111	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	383937	12.553	347318	12.547	111	50 - 200	0.0060	+/-0.50	
Blank (5B11007-BLK1)			Lab File ID: 0211BLK1.D				Analyzed: 02/11/15 11:21		
Fluorobenzene	884305	6.871	928682	6.865	95	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	382689	10.114	373192	10.114	103	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	325065	12.553	347318	12.547	94	50 - 200	0.0060	+/-0.50	
Trip Blank (1501134-01RE1)			Lab File ID: 0113401B.D				Analyzed: 02/11/15 12:36		
Fluorobenzene	883186	6.871	928682	6.865	95	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	376325	10.114	373192	10.114	101	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	334274	12.553	347318	12.547	96	50 - 200	0.0060	+/-0.50	
48MW07 (1501134-02RE1)			Lab File ID: 0113402C.D				Analyzed: 02/11/15 13:26		
Fluorobenzene	892192	6.871	928682	6.865	96	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	398015	10.114	373192	10.114	107	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	320309	12.553	347318	12.547	92	50 - 200	0.0060	+/-0.50	
48MW06 (1501134-03RE1)			Lab File ID: 0113403C.D				Analyzed: 02/11/15 13:51		
Fluorobenzene	815038	6.871	928682	6.865	88	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	348570	10.114	373192	10.114	93	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	296636	12.547	347318	12.547	85	50 - 200	0.0000	+/-0.50	

INITIAL CALIBRATION DATA

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Calibration: 4295001
Instrument: MS-VOA3
Matrix: Water
Calibration Dates: 10/16/14 13:21 10/16/14 16:41

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Acetone	1	~~0.2831877~~	2	0.2145004	4	0.2064464	10	0.1836217	20	0.1740537	100	0.162726
Acetonitrile	5	9.114622E-02	10	8.091982E-02	20	8.768087E-02	50	8.047303E-02	100	7.916384E-02	500	0.0745941
Acrolein	2.5	9.031621E-02	5	7.689738E-02	10	7.350392E-02	25	7.264452E-02	50	6.503572E-02	250	6.552477E-02
Acrylonitrile	2.5	0.2130309	5	0.2070217	10	0.1895143	25	0.2065787	50	0.1936815	250	0.1939173
Benzene	0.5	1.151321	1	1.159016	2	1.078146	5	1.159414	10	1.161027	50	1.130505
Allyl chloride	0.5	0.1565059	1	0.151439	2	0.1459895	5	0.130378	10	0.1275792	50	0.1330715
Bromobenzene	0.5	0.8439445	1	0.9205713	2	0.837176	5	0.8969543	10	0.8549328	50	0.8604857
Bromochloromethane	0.5	0.1938563	1	0.184174	2	0.169827	5	0.1654215	10	0.1518663	50	0.1511496
Tert-Amyl Methyl Ether	0.5	0.7224594	1	0.7488617	2	0.7534536	5	0.766632	10	0.7831078	50	0.8120617
Bromodichloromethane	0.5	0.4273139	1	0.4245003	2	0.4319698	5	0.3959077	10	0.3850038	50	0.3911307
Bromoform	0.5	0.4445651	1	0.4034796	2	0.4714086	5	0.4362794	10	0.4330809	50	0.4842183
Bromomethane	0.5	~~0.3187093~~	1	0.2394121	2	0.2032553	5	0.1563143	10	0.153635	50	0.1290641
Bromofluorobenzene	30	0.8163645	35	0.846126	40	0.8549964	50	0.8967081	60	0.8964288	70	0.9749375
n-Butylbenzene	0.5	1.673447	1	1.85992	2	1.744421	5	1.893006	10	2.176445	50	2.770877
2-Butanone	1	0.2794949	2	0.2617043	4	0.2749684	10	0.2800998	20	0.2674835	100	0.2633588
sec-Butylbenzene	0.5	2.724462	1	2.744201	2	2.880409	5	3.018196	10	3.346992	50	3.680258
tert-Butylbenzene	0.5	2.164477	1	2.458457	2	2.587807	5	2.51573	10	2.705307	50	2.889938
Carbon disulfide	0.5	0.7875236	1	0.789754	2	0.8252974	5	0.7255999	10	0.7251219	50	0.7337952
Carbon tetrachloride	0.5	0.3251102	1	0.314235	2	0.3258432	5	0.3560761	10	0.3354173	50	0.3513723
Chlorobenzene	0.5	1.731856	1	1.859688	2	1.963331	5	1.973945	10	1.927752	50	2.037209
Chloroethane	0.5	0.2327542	1	0.2951073	2	0.1873694	5	0.1854332	10	0.1766007	50	0.1713208
Chloroform	0.5	0.594019	1	0.6594118	2	0.5547495	5	0.5371191	10	0.5124922	50	0.5131066
2-Chloroethyl vinyl ether	1	0.1964237	2	0.1851057	4	0.1871079	10	0.1946576	20	0.1945244	100	0.2011486
Chloromethane	0.5	~~0.7838659~~	1	0.5763963	2	0.5165433	5	0.4332316	10	0.4260328	50	0.4053643
1-Chlorohexane	0.5	0.9194174	1	0.6327491	2	0.6548684	5	0.683508	10	0.6801708	50	0.792774
2-Chlorotoluene	0.5	2.145966	1	2.330324	2	2.324219	5	2.322964	10	2.329676	50	2.455515
Chloroprene	0.5	0.5017333	1	0.5351172	2	0.4753202	5	0.5197074	10	0.5231042	50	0.5509296
4-Chlorotoluene	0.5	1.799154	1	2.181079	2	2.167157	5	2.24691	10	2.295174	50	2.482293
Cyclohexane	0.5	0.516364	1	0.4498514	2	0.4972222	5	0.5362027	10	0.5296509	50	0.5703271
Dibromochloromethane	0.5	0.7244109	1	0.7121249	2	0.6896981	5	0.7070392	10	0.70418	50	0.7533795
1,2-Dibromo-3-chloropropane	0.5	0.2408364	1	0.1654927	2	0.208974	5	0.2116183	10	0.1882137	50	0.2111388

INITIAL CALIBRATION DATA

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Calibration: 4295001
Instrument: MS-VOA3
Matrix: Water
Calibration Dates: 10/16/14 13:21 10/16/14 16:41

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
1,2-Dibromoethane (EDB)	0.5	0.7068763	1	0.7777794	2	0.7161388	5	0.7459431	10	0.7224114	50	0.761919
Dibromomethane	0.5	0.2165057	1	0.2365289	2	0.2203444	5	0.2148718	10	0.2108341	50	0.2049623
1,2-Dichlorobenzene	0.5	1.58293	1	1.511908	2	1.653208	5	1.616671	10	1.62121	50	1.649454
1,3-Dichlorobenzene	0.5	1.464546	1	1.522708	2	1.531038	5	1.49741	10	1.54218	50	1.629165
trans-1,4-Dichloro-2-butene	0.5	~~0.503641~~	1	0.4178666	2	0.3027942	5	0.3357532	10	0.3149757	50	0.3561281
cis-1,4-Dichloro-2-butene	0.5	~~0.289858~~	1	0.2934309	2	0.3370701	5	0.3121928	10	0.3015181	50	0.3403299
1,4-Dichlorobenzene	0.5	1.582726	1	1.594898	2	1.550997	5	1.571378	10	1.540753	50	1.642729
Dichlorodifluoromethane	0.5	0.3034456	1	0.3038273	2	0.2602247	5	0.2393305	10	0.3083931	50	0.2938299
1,1-Dichloroethane	0.5	0.6050624	1	0.6104675	2	0.5991288	5	0.6357284	10	0.5871392	50	0.574594
1,2-Dichloroethane	0.5	0.5117919	1	0.5244282	2	0.551541	5	0.5305196	10	0.5115406	50	0.506878
1,1-Dichloroethene	0.5	0.2444306	1	0.253582	2	0.2398573	5	0.2482814	10	0.2388604	50	0.2360433
cis-1,2-Dichloroethene	0.5	0.3573258	1	0.307484	2	0.2774532	5	0.3122947	10	0.2985646	50	0.2958238
trans-1,2-Dichloroethene	0.5	0.2855793	1	0.3188763	2	0.2559175	5	0.2709855	10	0.2741967	50	0.2589648
1,2-Dichloroethene (total)	1	0.3214526	2	0.3131801	4	0.2666854	10	0.2916401	20	0.2863806	100	0.2773943
1,2-Dichloropropane	0.5	0.4029763	1	0.3800214	2	0.344275	5	0.357298	10	0.344227	50	0.3354818
1,3-Dichloropropane	0.5	1.241594	1	1.271751	2	1.235597	5	1.251729	10	1.225639	50	1.27214
2,2-Dichloropropane	0.5	0.455098	1	0.4092755	2	0.3855154	5	0.3792277	10	0.3799265	50	0.3810865
1,1-Dichloropropene	0.5	0.348674	1	0.3798808	2	0.3624103	5	0.343218	10	0.3555048	50	0.3576954
cis-1,3-Dichloropropene	0.5	0.4183807	1	0.3963714	2	0.4078533	5	0.410698	10	0.404291	50	0.4224566
trans-1,3-Dichloropropene	0.5	0.9187089	1	0.9388759	2	0.9680721	5	0.973114	10	1.012742	50	1.077342
Diisopropyl Ether	0.5	1.374298	1	1.376066	2	1.359627	5	1.395477	10	1.370086	50	1.420054
1,4-Dioxane	10	5.293065E-03	20	5.195056E-03	40	4.626255E-03	100	4.735107E-03	200	4.187463E-03	1000	4.618499E-03
Ethylbenzene	0.5	2.695021	1	2.657876	2	2.907598	5	2.898625	10	2.977151	50	3.313279
Ethyl tert-Butyl Ether	0.5	1.035049	1	1.002901	2	1.068311	5	1.067617	10	1.016911	50	1.043041
Ethyl Methacrylate	0.5	0.8588432	1	0.9542474	2	0.8202765	5	0.9285456	10	0.8916705	50	1.013883
Hexachlorobutadiene	0.5	0.4784183	1	0.3555028	2	0.4540254	5	0.4496404	10	0.4938793	50	0.477372
Hexane	0.5	0.2804445	1	0.2405021	2	0.2508606	5	0.2466973	10	0.266278	50	0.3149691
2-Hexanone	1	0.890193	2	0.7413915	4	0.8443015	10	0.8460974	20	0.8034319	100	0.917986
Iodomethane	0.5	0.1765527	1	0.1410664	2	0.1561557	5	0.1778391	10	0.2124582	50	0.2860403
Isobutyl alcohol	10	~~8.036315E-03~~	20	1.162954E-02	40	1.165806E-02	100	1.207344E-02	200	1.176699E-02	1000	1.293507E-02
Isopropylbenzene	0.5	2.054033	1	2.261952	2	2.536857	5	2.590636	10	2.804258	50	3.048067

INITIAL CALIBRATION DATA

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Calibration: 4295001
Instrument: MS-VOA3
Matrix: Water
Calibration Dates: 10/16/14 13:21 10/16/14 16:41

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
p-Isopropyltoluene	0.5	2.440503	1	2.230503	2	2.378976	5	2.623635	10	2.827869	50	3.178612
Methacrylonitrile	5	0.330034	10	0.3336615	20	0.3267657	50	0.3452114	100	0.3397008	500	0.3434933
Methylene chloride	0.5	~~0.7573479~~	1	0.5201386	2	0.3669267	5	0.3587756	10	0.3220044	50	0.292613
Methyl Acetate	0.5	0.4885094	1	0.4816019	2	0.4531916	5	0.4670675	10	0.4488808	50	0.4181339
Methylcyclohexane	0.5	0.3808193	1	0.3517871	2	0.3604224	5	0.3783397	10	0.3975021	50	0.4351422
Naphthalene	0.5	2.310117	1	2.36924	2	2.425293	5	2.518241	10	2.675355	50	3.387395
Methyl Methacrylate	0.5	0.3642191	1	0.4012236	2	0.3995878	5	0.4122609	10	0.4062647	50	0.4469058
4-Methyl-2-pentanone	1	0.527548	2	0.4709481	4	0.5124628	10	0.4876013	20	0.4934689	100	0.5107059
Methyl t-Butyl Ether	0.5	0.82818	1	0.8962219	2	0.8882305	5	0.874107	10	0.8165308	50	0.8323741
n-Propylbenzene	0.5	2.902648	1	3.202444	2	3.216104	5	3.493465	10	3.594487	50	3.962358
Propionitrile	5	6.920726E-02	10	7.337072E-02	20	7.194498E-02	50	7.673495E-02	100	7.639417E-02	500	7.307815E-02
Styrene	0.5	1.474504	1	1.501628	2	1.613805	5	1.795404	10	1.792101	50	2.071283
1,1,2,2-Tetrachloroethane	0.5	1.202148	1	1.097155	2	1.052977	5	1.02781	10	1.011611	50	0.9925428
1,1,1,2-Tetrachloroethane	0.5	0.7465506	1	0.6337912	2	0.6701091	5	0.6731051	10	0.6464698	50	0.6742159
tert-Butyl alcohol	2.5	4.821085E-02	5	0.0418558	10	0.040107	25	3.776862E-02	50	3.839076E-02	250	4.064308E-02
Tetrachloroethene	0.5	0.569433	1	0.6583682	2	0.7135474	5	0.6932162	10	0.7049933	50	0.7252889
Toluene	0.5	1.780917	1	1.738106	2	1.687637	5	1.785126	10	1.708899	50	1.770882
1,2,3-Trichlorobenzene	0.5	0.9879582	1	0.9272844	2	0.8547169	5	0.9310762	10	0.9786849	50	1.118576
1,2,4-Trichlorobenzene	0.5	0.761157	1	0.768213	2	0.807309	5	0.8291168	10	0.8660104	50	1.053462
1,1,2-Trichloroethane	0.5	0.6712757	1	0.6148591	2	0.6689672	5	0.6538135	10	0.6149545	50	0.6142855
1,1,1-Trichloroethane	0.5	0.4529175	1	0.4658849	2	0.4589984	5	0.457257	10	0.4239077	50	0.4291777
Tetrahydrofuran	0.5	~~8.729161E-02~~	1	6.441518E-02	2	4.716932E-02	5	5.142516E-02	10	0.0469133	50	4.590161E-02
Trichloroethene	0.5	0.297115	1	0.3396916	2	0.2978032	5	0.2816911	10	0.2788672	50	0.2920541
Trichlorofluoromethane	0.5	0.450948	1	0.4179955	2	0.3825336	5	0.4111598	10	0.395488	50	0.3906283
1,2,3-Trichloropropane	0.5	0.3320955	1	0.4021769	2	0.3554121	5	0.3350117	10	0.3295295	50	0.3326681
1,3,5-Trimethylbenzene	0.5	2.117896	1	2.143816	2	2.463125	5	2.626552	10	2.721993	50	2.991009
1,2,4-Trimethylbenzene	0.5	2.326797	1	2.303763	2	2.405145	5	2.610359	10	2.885742	50	3.149974
1,1,2-Trichloro-1,2,2-trifluoroethan	0.5	0.2858607	1	0.2604033	2	0.2435367	5	0.2633915	10	0.250508	50	0.2526273
Vinyl chloride	0.5	0.3318628	1	0.2852974	2	0.2314697	5	0.2610898	10	0.2629828	50	0.2316864
m,p-Xylene	1	2.094593	2	2.207414	4	2.287076	10	2.366137	20	2.459229	100	2.645263
o-Xylene	0.5	2.059878	1	2.318575	2	2.413526	5	2.647567	10	2.615607	50	2.884386

INITIAL CALIBRATION DATA

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Calibration: 4295001
Instrument: MS-VOA3
Matrix: Water
Calibration Dates: 10/16/14 13:21 10/16/14 16:41

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Vinyl acetate	1	0.7834087	2	0.838083	4	0.8432758	10	0.8788524	20	0.8594562	100	0.9150157
Xylenes (total)	1.5	2.083021	3	2.244467	6	2.329226	15	2.459947	30	2.511355	150	2.72497
Dibromofluoromethane	30	0.2823882	35	0.2796786	40	0.2835722	50	0.2860927	60	0.2813022	70	0.2719434
1,2-Dichloroethane-d4	30	6.706776E-02	35	6.776252E-02	40	6.789069E-02	50	7.134238E-02	60	6.946825E-02	70	6.788592E-02
Toluene-d8	30	2.374072	35	2.333834	40	2.385006	50	2.424655	60	2.420819	70	2.478278
tert-Amyl alcohol	2.5	2.466111E-02	5	3.134966E-02	10	2.888053E-02	25	2.795386E-02	50	2.911839E-02	250	3.071066E-02
tert-Amyl ethyl ether	0.5	0.7169729	1	0.7305076	2	0.7629572	5	0.7768261	10	0.7750648	50	0.823663
1,3,5-Trichlorobenzene	0.5	1.084984	1	0.910453	2	0.9285784	5	0.8726923	10	1.031728	50	1.161346
Diethyl ether	0.5	0.3179356	1	0.2789332	2	0.2779589	5	0.27252	10	0.2675827	50	0.2570301

INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Calibration: 4295001
Instrument: MS-VOA3
Matrix: Water
Calibration Dates: 10/16/14 13:21 10/16/14 16:41

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Acetone	200	0.1599845	300	0.1561937	400	0.1505949						
Acetonitrile	1000	7.352972E-02	1500	7.584072E-02	2000	7.002842E-02						
Acrolein	500	6.822378E-02	750	7.365585E-02	1000	0.0723494						
Acrylonitrile	500	0.1923301	750	0.1909774	1000	0.1882756						
Benzene	100	1.124629	150	1.112826	200	1.103169						
Allyl chloride	100	0.1321046	150	0.1265529	200	0.1236887						
Bromobenzene	100	0.9132225	150	0.881261	200	0.9201046						
Bromochloromethane	100	0.1468513	150	0.1430919	200	0.140232						
Tert-Amyl Methyl Ether	100	0.8235949	150	0.8256815	200	0.827518						
Bromodichloromethane	100	0.4031426	150	0.4030735	200	0.4007823						
Bromoform	100	0.4962221	150	0.5115593	200	0.5395074						
Bromomethane	100	0.1400872	150	0.1466216	200	0.1527915						
Bromofluorobenzene	30	0.9103009	30	0.9295138	30	0.9406898						
n-Butylbenzene	100	2.971846	150	2.860801	200	2.966754						
2-Butanone	200	0.2647127	300	0.2638735	400	0.2615459						
sec-Butylbenzene	100	3.859276	150	3.609866	200	3.731563						
tert-Butylbenzene	100	3.021169	150	2.85244	200	2.995619						
Carbon disulfide	100	0.7413807	150	0.7308015	200	0.7379922						
Carbon tetrachloride	100	0.360843	150	0.3643772	200	0.3654159						
Chlorobenzene	100	1.967972	150	1.961442	200	1.983058						
Chloroethane	100	0.1712763	150	0.1748498	200	0.1669693						
Chloroform	100	0.5142966	150	0.5073537	200	0.502146						
2-Chloroethyl vinyl ether	200	0.1955504	300	0.1928591	400	0.1916976						
Chloromethane	100	0.4072417	150	0.419822	200	0.4139386						
1-Chlorohexane	100	0.8239735	150	0.8495812	200	0.8869521						
2-Chlorotoluene	100	2.57514	150	2.407607	200	2.540176						
Chloroprene	100	0.5627323	150	0.5695029	200	0.5692397						
4-Chlorotoluene	100	2.621342	150	2.475829	200	2.604864						
Cyclohexane	100	0.5748489	150	0.5829949	200	0.5735414						
Dibromochloromethane	100	0.7640236	150	0.7765083	200	0.8030505						
1,2-Dibromo-3-chloropropane	100	0.2341459	150	0.2319362	200	0.2422095						

INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Calibration: 4295001
Instrument: MS-VOA3
Matrix: Water
Calibration Dates: 10/16/14 13:21 10/16/14 16:41

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
1,2-Dibromoethane (EDB)	100	0.734986	150	0.7453574	200	0.7584881						
Dibromomethane	100	0.2032661	150	0.2015954	200	0.2008686						
1,2-Dichlorobenzene	100	1.705711	150	1.61263	200	1.687973						
1,3-Dichlorobenzene	100	1.706185	150	1.600168	200	1.677371						
trans-1,4-Dichloro-2-butene	100	0.3793866	150	0.3584148	200	0.3825399						
cis-1,4-Dichloro-2-butene	100	0.3745582	150	0.3580912	200	0.379079						
1,4-Dichlorobenzene	100	1.723801	150	1.620891	200	1.711445						
Dichlorodifluoromethane	100	0.2922623	150	0.2881929	200	0.2826944						
1,1-Dichloroethane	100	0.5766117	150	0.5777709	200	0.5694591						
1,2-Dichloroethane	100	0.4985737	150	0.4948809	200	0.4878803						
1,1-Dichloroethene	100	0.2346606	150	0.2253321	200	0.239081						
cis-1,2-Dichloroethene	100	0.2942884	150	0.2942657	200	0.2928889						
trans-1,2-Dichloroethene	100	0.2614515	150	0.2584178	200	0.2602438						
1,2-Dichloroethene (total)	200	0.2778699	300	0.2763418	400	0.2765664						
1,2-Dichloropropane	100	0.3394986	150	0.3394781	200	0.3403785						
1,3-Dichloropropane	100	1.198097	150	1.197102	200	1.209856						
2,2-Dichloropropane	100	0.3766044	150	0.3753931	200	0.3738345						
1,1-Dichloropropene	100	0.3702447	150	0.3720801	200	0.3779045						
cis-1,3-Dichloropropene	100	0.4420106	150	0.4425348	200	0.4462925						
trans-1,3-Dichloropropene	100	1.084273	150	1.113828	200	1.147358						
Diisopropyl Ether	100	1.406047	150	1.373279	200	1.382991						
1,4-Dioxane	2000	4.592541E-03	3000	4.647958E-03	4000	4.820193E-03						
Ethylbenzene	100	3.225555	150	3.224901	200	3.254038						
Ethyl tert-Butyl Ether	100	1.04244	150	1.033881	200	1.048188						
Ethyl Methacrylate	100	1.015996	150	1.040446	200	1.082912						
Hexachlorobutadiene	100	0.5134709	150	0.5287658	200	0.5806636						
Hexane	100	0.3193484	150	0.3280953	200	0.3257837						
2-Hexanone	200	0.906556	300	0.914025	400	0.923936						
Iodomethane	100	0.3045781	150	0.3045269	200	0.3002998						
Isobutyl alcohol	2000	1.340708E-02	3000	1.402714E-02	4000	1.446794E-02						
Isopropylbenzene	100	3.021929	150	3.02427	200	3.057088						

INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Calibration: 4295001
Instrument: MS-VOA3
Matrix: Water
Calibration Dates: 10/16/14 13:21 10/16/14 16:41

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
p-Isopropyltoluene	100	3.343767	150	3.132065	200	3.228946						
Methacrylonitrile	1000	0.3328721	1500	0.3174696	2000	0.2891114						
Methylene chloride	100	0.2872807	150	0.2802773	200	0.2812311						
Methyl Acetate	100	0.4106206	150	0.4047243	200	0.3997302						
Methylcyclohexane	100	0.438318	150	0.4378804	200	0.4362732						
Naphthalene	100	3.754115	150	3.855196	200	4.183866						
Methyl Methacrylate	100	0.4589517	150	0.4646012	200	0.4704675						
4-Methyl-2-pentanone	200	0.524895	300	0.5214835	400	0.5175671						
Methyl t-Butyl Ether	100	0.8459411	150	0.8552579	200	0.8603508						
n-Propylbenzene	100	4.111074	150	3.859742	200	4.02087						
Propionitrile	1000	7.342286E-02	1500	0.0731085	2000	7.195543E-02						
Styrene	100	2.074578	150	2.095207	200	2.137256						
1,1,2,2-Tetrachloroethane	100	1.033138	150	0.9744785	200	1.025081						
1,1,1,2-Tetrachloroethane	100	0.6720924	150	0.6739383	200	0.6955515						
tert-Butyl alcohol	500	4.037664E-02	750	0.0448997	1000	4.333842E-02						
Tetrachloroethene	100	0.7043905	150	0.7102588	200	0.7241134						
Toluene	100	1.713484	150	1.716999	200	1.757599						
1,2,3-Trichlorobenzene	100	1.226432	150	1.298077	200	1.455935						
1,2,4-Trichlorobenzene	100	1.180609	150	1.245719	200	1.37872						
1,1,2-Trichloroethane	100	0.584117	150	0.585268	200	0.5949616						
1,1,1-Trichloroethane	100	0.4258438	150	0.4291811	200	0.4300776						
Tetrahydrofuran	100	4.413997E-02	150	4.513065E-02	200	4.550373E-02						
Trichloroethene	100	0.2905359	150	0.2902553	200	0.293754						
Trichlorofluoromethane	100	0.3823509	150	0.3853887	200	0.3790659						
1,2,3-Trichloropropane	100	0.3117237	150	0.3132538	200	0.3215403						
1,3,5-Trimethylbenzene	100	3.121213	150	2.896912	200	3.031967						
1,2,4-Trimethylbenzene	100	3.266343	150	3.066294	200	3.180397						
1,1,2-Trichloro-1,2,2-trifluoroethan	100	0.2481333	150	0.236933	200	0.2438021						
Vinyl chloride	100	0.2483306	150	0.2374711	200	0.2250952						
m,p-Xylene	200	2.526596	300	2.464894	400	2.439722						
o-Xylene	100	2.763501	150	2.690179	200	2.746156						

INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
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Calibration: 4295001
Instrument: MS-VOA3
Matrix: Water
Calibration Dates: 10/16/14 13:21 10/16/14 16:41

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Vinyl acetate	200	0.9370028	300	0.9379896	400	0.9264027						
Xylenes (total)	300	2.605565	450	2.539989	600	2.541867						
Dibromofluoromethane	30	0.2653276	30	0.2660985	30	0.2628729						
1,2-Dichloroethane-d4	30	6.156898E-02	30	0.0653583	30	6.253307E-02						
Toluene-d8	30	2.353654	30	2.367361	30	2.40618						
tert-Amyl alcohol	500	0.0325668	750	3.355438E-02	1000	3.440976E-02						
tert-Amyl ethyl ether	100	0.8505777	150	0.8442168	200	0.8430542						
1,3,5-Trichlorobenzene	100	1.264218	150	1.265961	200	1.367529						
Diethyl ether	100	0.2694005	150	0.2714491	200	0.2538955						

INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Calibration: 4295001
Instrument: MS-VOA3
Matrix: Water
Calibration Dates: 10/16/14 13:21 10/16/14 16:41

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Acetone	0.1760152	13.48137	2.79575	7.676325E-02			15	
Acetonitrile	7.926408E-02	8.556035	2.851333	9.238988E-02			15	
Acrolein	7.312795E-02	10.34956	2.716	1.217138E-02			15	
Acrylonitrile	0.1972586	4.60223	3.434	1.919701E-02			15	
Benzene	1.131117	2.586204	6.581111	4.869397E-02			15	
Allyl chloride	0.1363677	8.694126	3.496333	0.0752812			15	
Bromobenzene	0.8809614	3.760915	11.489	1.594943E-02			15	
Bromochloromethane	0.1607189	11.73555	5.634667	4.696508E-02			15	
Tert-Amyl Methyl Ether	0.784819	4.983532	6.785333	3.055938E-02			15	
Bromodichloromethane	0.4069805	4.139036	7.63	4.273778E-02			15	
Bromoform	0.4689245	9.237793	10.89089	2.571847E-02			SPCC (0.1)	
Bromomethane	0.1651476	22.42863	2.132	0.0169787	0.9973399		0.99	
Bromofluorobenzene	0.8962295	5.588227	11.337	2.301907E-02			15	
n-Butylbenzene	2.324169	24.06542	12.947	1.439461E-02	0.9991585		0.99	
2-Butanone	0.2685824	2.807837	5.058333	0.1648504			15	
sec-Butylbenzene	3.288358	13.75316	12.395	1.762748E-02			15	
tert-Butylbenzene	2.687883	10.52479	12.16267	3.017344E-02			15	
Carbon disulfide	0.7552518	4.790882	3.608111	9.614895E-02			15	
Carbon tetrachloride	0.3442989	5.627313	6.543667	5.477973E-02			15	
Chlorobenzene	1.934028	4.619102	10.14944	1.738742E-02			SPCC (0.3)	
Chloroethane	0.1957423	21.558	2.222778	8.305091E-02	0.9992719		0.99	
Chloroform	0.5438549	9.622319	5.605333	6.251643E-02			CCC (30)	
2-Chloroethyl vinyl ether	0.1932306	2.508571	8.021	1.624251E-02			15	
Chloromethane	0.4498213	13.88103	1.694	1.252988E-02			SPCC (0.1)	
1-Chlorohexane	0.7693327	14.04532	10.13067	2.714863E-02			15	
2-Chlorotoluene	2.381287	5.481835	11.714	1.073363E-02			15	
Chloroprene	0.5341541	6.07463	4.858666	4.362328E-02			15	
4-Chlorotoluene	2.319311	11.22753	11.781	1.442141E-02			15	
Cyclohexane	0.5367782	8.240142	6.465333	0.0396715			15	
Dibromochloromethane	0.7371572	5.234535	9.366	1.856706E-02			15	
1,2-Dibromo-3-chloropropane	0.2149517	11.96576	13.551	9.943235E-03			15	
1,2-Dibromoethane (EDB)	0.7410999	3.129674	9.585	1.861853E-02			15	

INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Calibration: 4295001
Instrument: MS-VOA3
Matrix: Water
Calibration Dates: 10/16/14 13:21 10/16/14 16:41

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Dibromomethane	0.2121975	5.421595	7.562333	4.078514E-02			15	
1,2-Dichlorobenzene	1.626855	3.547049	12.894	1.563498E-02			15	
1,3-Dichlorobenzene	1.57453	5.276544	12.481	6.821946E-03			15	
trans-1,4-Dichloro-2-butene	0.3559824	10.62197	11.31675	2.728398E-02			15	
cis-1,4-Dichloro-2-butene	0.3370338	9.653413	10.996	1.705064E-02			15	
1,4-Dichlorobenzene	1.615513	4.088323	12.578	6.094005E-03			15	
Dichlorodifluoromethane	0.2858001	7.903594	1.536	1.422478E-02			15	
1,1-Dichloroethane	0.5928847	3.647674	4.586667	7.123491E-02			SPCC (0.1)	
1,2-Dichloroethane	0.5131149	3.855696	6.414333	3.448089E-02			15	
1,1-Dichloroethene	0.2400143	3.404467	3.148667	6.754065E-02			CCC (30)	
cis-1,2-Dichloroethene	0.3033766	7.402522	5.335333	8.089337E-02			15	
trans-1,2-Dichloroethene	0.2716259	7.419108	4.189889	9.867481E-02			15	
1,2-Dichloroethene (total)	0.2875012	6.393259	5.335333	8.089337E-02			15	
1,2-Dichloropropane	0.3537372	6.497223	7.443	5.521585E-03			CCC (30)	
1,3-Dichloropropane	1.233723	2.320555	9.11	1.727931E-02			15	
2,2-Dichloropropane	0.3906624	6.758274	5.444	5.378247E-02			15	
1,1-Dichloropropene	0.3630681	3.54232	6.420333	2.910382E-02			15	
cis-1,3-Dichloropropene	0.4212099	4.376209	8.234	3.362673E-03			15	
trans-1,3-Dichloropropene	1.026035	8.000217	8.738334	1.876383E-02			15	
Diisopropyl Ether	1.384214	1.393797	4.955667	0.0433303			15	
1,4-Dioxane	4.746238E-03	6.996927	7.613	7.820996E-02			15	
Ethylbenzene	3.017116	8.210276	10.30311	1.804837E-02			CCC (30)	
Ethyl tert-Butyl Ether	1.039815	2.04506	5.453333	6.757102E-02			15	
Ethyl Methacrylate	0.9563134	9.275261	8.940666	1.832308E-02			15	
Hexachlorobutadiene	0.4813043	12.9156	14.90867	6.122088E-03			15	
Hexane	0.2858866	12.71768	4.784333	3.886878E-02			15	
2-Hexanone	0.8653243	7.182226	9.055778	1.480979E-02			15	
Iodomethane	0.2288352	30.28926	3.310889	0.1996837	0.9994647		0.99	
Isobutyl alcohol	1.274566E-02	8.856721	5.697	2.091796E-02			15	
Isopropylbenzene	2.71101	13.77066	11.22167	1.856766E-02			15	
p-Isopropyltoluene	2.820542	14.79018	12.541	1.354061E-02			15	
Methacrylonitrile	0.3287022	5.21796	5.242334	4.943111E-02			15	

INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Calibration: 4295001
Instrument: MS-VOA3
Matrix: Water
Calibration Dates: 10/16/14 13:21 10/16/14 16:41

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Methylene chloride	0.3386559	23.90645	3.5345	9.131321E-02	0.9996799		0.99	
Methyl Acetate	0.4413845	7.707813	3.405333	7.781263E-02			15	
Methylcyclohexane	0.4018316	8.867748	7.766666	2.548838E-02			15	
Naphthalene	3.053202	24.20075	14.774	1.856488E-02	0.9952326		0.99	
Methyl Methacrylate	0.4249425	8.600991	7.597778	6.049716E-02			15	
4-Methyl-2-pentanone	0.507409	3.794182	8.161667	0.0327926			15	
Methyl t-Butyl Ether	0.8552438	3.199477	4.17	7.177078E-02			15	
n-Propylbenzene	3.59591	11.79873	11.635	5.35925E-03			15	
Propionitrile	7.324633E-02	3.122504	4.776	9.673545E-02			15	
Styrene	1.83953	14.45371	10.78967	1.930714E-02			15	
1,1,2,2-Tetrachloroethane	1.046327	6.511588	11.15867	1.695073E-02			SPCC (0.3)	
1,1,1,2-Tetrachloroethane	0.6762027	4.699455	10.199	2.814642E-02			15	
tert-Butyl alcohol	4.173232E-02	7.90852	3.234444	8.999192E-02			15	
Tetrachloroethene	0.68929	7.134735	9.469	1.422247E-02			15	
Toluene	1.739961	2.023687	8.717	3.347123E-02			CCC (30)	
1,2,3-Trichlorobenzene	1.086527	18.59103	15.06067	2.229084E-02	0.9910848		0.99	
1,2,4-Trichlorobenzene	0.9878129	23.55189	14.62733	0.0158537	0.9921662		0.99	
1,1,2-Trichloroethane	0.6225002	5.4829	8.891667	3.151169E-02			15	
1,1,1-Trichloroethane	0.4414717	3.814041	6.19	4.971849E-02			15	
Tetrahydrofuran	4.882487E-02	13.66026	5.82275	7.809364E-02			15	
Trichloroethene	0.2957519	5.97079	7.387	3.696599E-02			15	
Trichlorofluoromethane	0.3995065	5.8825	2.580222	0.1246556			15	
1,2,3-Trichloropropane	0.3370457	8.213814	11.284	2.732802E-02			15	
1,3,5-Trimethylbenzene	2.679387	13.94858	11.81833	1.538039E-02			15	
1,2,4-Trimethylbenzene	2.799424	13.97812	12.19444	1.810489E-02			15	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.2539107	5.736913	3.188333	9.773019E-02			15	
Vinyl chloride	0.257254	13.19946	1.798	1.861352E-02			CCC (30)	
m,p-Xylene	2.38788	7.076305	10.418	6.389687E-03			15	
o-Xylene	2.571042	10.08422	10.81344	1.641062E-02			15	
Vinyl acetate	0.879943	6.07361	4.657	2.075979E-02			15	
Xylenes (total)	2.448934	8.060256	10.81344	1.641062E-02			15	
Dibromofluoromethane	0.2754751	3.246555	5.788445	8.630386E-04			15	

INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134	
Client:	CB&I	Project:	Radford AAP	
Calibration:	4295001	Instrument:	MS-VOA3	
Matrix:	Water	Calibration Dates:	10/16/14 13:21	10/16/14 16:41

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
1,2-Dichloroethane-d4	6.676421E-02	4.699557	6.318	4.988224E-03			15	
Toluene-d8	2.393762	1.829584	8.637889	3.525258E-02			15	
tert-Amyl alcohol	3.035613E-02	10.0578	5.993667	4.800608E-02			15	
tert-Amyl ethyl ether	0.7915378	6.400902	7.724333	3.367899E-02			15	
1,3,5-Trichlorobenzene	1.09861	16.14547	14.068	1.577873E-02	0.9967573		0.99	
Diethyl ether	0.2740784	6.744353	2.869556	0.105763			15	

Per current DoD QSM requirements, effective 03/17/2014, Empirical has updated the linear calibration coefficient requirements to reflect a limit of 0.990 for "r2" rather than the previously reported limit of 0.995 for "r". The change in assessment criteria is consistent with regulatory requirements.

INITIAL CALIBRATION CHECK

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134
Client:	CB&I	Project:	Radford AAP
Instrument ID:	MS-VOA3	Calibration:	4295001
Lab File ID:	1016ICV2.D	Calibration Date:	10/16/14 13:21
Sequence:	4J29412	Injection Date:	10/16/14
Lab Sample ID:	4J29412-ICV2	Injection Time:	17:56

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Acetone	A	200.0	168.8	0.1760152	0.1485478		-15.6	20
Benzene	A	100.0	97.80	1.131117	1.106213		-2.2	20
Bromodichloromethane	A	100.0	94.10	0.4069805	0.3829828		-5.9	20
Bromoform	A	100.0	107.5	0.4689245	0.5039055	0.1	7.5	20
Bromomethane	A	100.0	104.1	0.1651476	0.1545396		4.1	20
2-Butanone	A	200.0	191.8	0.2685824	0.2576075		-4.1	20
Carbon disulfide	A	100.0	91.88	0.7552518	0.6939144		-8.1	20
Carbon tetrachloride	A	100.0	102.1	0.3442989	0.3515265		2.1	20
Chlorobenzene	A	100.0	99.51	1.934028	1.924638	0.3	-0.5	20
Chloroethane	A	100.0	86.05	0.1957423	0.1463484		-13.9	20
Chloroform	A	100.0	93.10	0.5438549	0.5063504		-6.9	20
Chloromethane	A	100.0	94.57	0.4498213	0.4253874	0.1	-5.4	20
Dibromochloromethane	A	100.0	103.2	0.7371572	0.7607102		3.2	20
1,1-Dichloroethane	A	100.0	95.57	0.5928847	0.5666157	0.1	-4.4	20
1,2-Dichloroethane	A	100.0	95.46	0.5131149	0.4898065		-4.5	20
1,1-Dichloroethene	A	100.0	88.45	0.2400143	0.2122883		-11.6	20
cis-1,2-Dichloroethene	A	100.0	96.07	0.3033766	0.2914645		-3.9	20
trans-1,2-Dichloroethene	A	100.0	90.75	0.2716259	0.2465127		-9.2	20
1,2-Dichloropropane	A	100.0	96.27	0.3537372	0.3405408		-3.7	20
cis-1,3-Dichloropropene	A	100.0	109.6	0.4212099	0.4616137		9.6	20
trans-1,3-Dichloropropene	A	100.0	98.22	1.026035	1.007738		-1.8	20
Ethylbenzene	A	100.0	107.6	3.017116	3.247643		7.6	20
2-Hexanone	A	200.0	207.7	0.8653243	0.8988259		3.9	20
Methylene chloride	A	100.0	99.52	0.3386559	0.2808719		-0.5	20
4-Methyl-2-pentanone	A	200.0	205.5	0.507409	0.5213606		2.7	20
Styrene	A	100.0	117.9	1.83953	2.169414		17.9	20
1,1,2,2-Tetrachloroethane	A	100.0	94.11	1.046327	0.9846777	0.3	-5.9	20
Tetrachloroethene	A	100.0	101.2	0.68929	0.6972945		1.2	20
Toluene	A	100.0	98.82	1.739961	1.719397		-1.2	20

INITIAL CALIBRATION CHECK

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134
Client:	CB&I	Project:	Radford AAP
Instrument ID:	MS-VOA3	Calibration:	4295001
Lab File ID:	1016ICV2.D	Calibration Date:	10/16/14 13:21
Sequence:	4J29412	Injection Date:	10/16/14
Lab Sample ID:	4J29412-ICV2	Injection Time:	17:56

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
1,1,2-Trichloroethane	A	100.0	96.61	0.6225002	0.6014224		-3.4	20
1,1,1-Trichloroethane	A	100.0	96.49	0.4414717	0.4259819		-3.5	20
Trichloroethene	A	100.0	96.75	0.2957519	0.2861375		-3.3	20
Vinyl chloride	A	100.0	87.47	0.257254	0.2250098		-12.5	20
m,p-Xylene	A	200.0	208.5	2.38788	2.489828		4.3	20
o-Xylene	A	100.0	105.0	2.571042	2.700375		5.0	20
Bromofluorobenzene	A	30.00	31.05	0.8962295	0.9275562		3.5	20
Dibromofluoromethane	A	30.00	28.84	0.2754751	0.2648002		-3.9	20
1,2-Dichloroethane-d4	A	30.00	28.91	6.676421E-02	6.432998E-02		-3.6	20
Toluene-d8	A	30.00	30.07	2.393762	2.399575		0.2	20

CONTINUING CALIBRATION CHECK

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134
Client:	CB&I	Project:	Radford AAP
Instrument ID:	MS-VOA3	Calibration:	4295001
Lab File ID:	0211CCV1.D	Calibration Date:	10/16/14 13:21
Sequence:	5B04309	Injection Date:	02/11/15
Lab Sample ID:	5B04309-CCV1	Injection Time:	08:42

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Acetone	A	200.0	237.0	0.1760152	0.2085528		18.5	20	
Benzene	A	100.0	97.07	1.131117	1.097973		-2.9	20	
Bromodichloromethane	A	100.0	102.0	0.4069805	0.4151874		2.0	20	
Bromoform	A	100.0	120.3	0.4689245	0.5640869	0.1	20.3	20	*
Bromomethane	A	100.0	101.9	0.1651476	0.1513		1.9	20	
2-Butanone	A	200.0	201.0	0.2685824	0.26988		0.5	20	
Carbon disulfide	A	100.0	93.71	0.7552518	0.7077272		-6.3	20	
Carbon tetrachloride	A	100.0	123.9	0.3442989	0.4265207		23.9	20	*
Chlorobenzene	A	100.0	89.89	1.934028	1.738414	0.3	-10.1	20	
Chloroethane	A	100.0	109.1	0.1957423	0.1854696		9.1	20	
Chloroform	A	100.0	101.9	0.5438549	0.5539971		1.9	20	
Chloromethane	A	100.0	98.31	0.4498213	0.4422299	0.1	-1.7	20	
Dibromochloromethane	A	100.0	101.7	0.7371572	0.7499388		1.7	20	
1,1-Dichloroethane	A	100.0	103.4	0.5928847	0.613059	0.1	3.4	20	
1,2-Dichloroethane	A	100.0	112.9	0.5131149	0.5794366		12.9	20	
1,1-Dichloroethene	A	100.0	96.27	0.2400143	0.2310554		-3.7	20	
cis-1,2-Dichloroethene	A	100.0	96.18	0.3033766	0.2917957		-3.8	20	
trans-1,2-Dichloroethene	A	100.0	90.77	0.2716259	0.2465432		-9.2	20	
1,2-Dichloropropane	A	100.0	98.56	0.3537372	0.3486584		-1.4	20	
cis-1,3-Dichloropropene	A	100.0	117.3	0.4212099	0.4940718		17.3	20	
trans-1,3-Dichloropropene	A	100.0	110.9	1.026035	1.137795		10.9	20	
Ethylbenzene	A	100.0	103.7	3.017116	3.129441		3.7	20	
2-Hexanone	A	200.0	192.2	0.8653243	0.8317626		-3.9	20	
Methylene chloride	A	100.0	96.12	0.3386559	0.2712587		-3.9	20	
4-Methyl-2-pentanone	A	200.0	194.9	0.507409	0.4945754		-2.5	20	
Styrene	A	100.0	110.5	1.83953	2.033339		10.5	20	
1,1,2,2-Tetrachloroethane	A	100.0	92.75	1.046327	0.9705194	0.3	-7.2	20	
Tetrachloroethene	A	100.0	102.4	0.68929	0.7058062		2.4	20	
Toluene	A	100.0	92.75	1.739961	1.613831		-7.2	20	

CONTINUING CALIBRATION CHECK

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134
Client:	CB&I	Project:	Radford AAP
Instrument ID:	MS-VOA3	Calibration:	4295001
Lab File ID:	0211CCV1.D	Calibration Date:	10/16/14 13:21
Sequence:	5B04309	Injection Date:	02/11/15
Lab Sample ID:	5B04309-CCV1	Injection Time:	08:42

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
1,1,2-Trichloroethane	A	100.0	83.42	0.6225002	0.5192951		-16.6	20
1,1,1-Trichloroethane	A	100.0	111.3	0.4414717	0.4915468		11.3	20
Trichloroethene	A	100.0	93.94	0.2957519	0.2778177		-6.1	20
Vinyl chloride	A	100.0	111.2	0.257254	0.2861371		11.2	20
m,p-Xylene	A	200.0	205.7	2.38788	2.456372		2.9	20
o-Xylene	A	100.0	103.7	2.571042	2.665612		3.7	20
Bromofluorobenzene	A	30.00	30.05	0.8962295	0.8977108		0.2	20
Dibromofluoromethane	A	30.00	30.99	0.2754751	0.2845373		3.3	20
1,2-Dichloroethane-d4	A	30.00	28.96	6.676421E-02	6.444386E-02		-3.5	20
Toluene-d8	A	30.00	28.19	2.393762	2.249647		-6.0	20

HOLDING TIME SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC SDG: 1501134

Client: CB&I Project: Radford AAP

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
Trip Blank	01/29/15 08:00	01/30/15 08:35	02/11/15 12:36	N/A	14.00	02/11/15 12:36	13.23	14.00	
48MW07	01/29/15 09:25	01/30/15 08:35	02/11/15 13:26	N/A	14.00	02/11/15 13:26	13.21	14.00	
48MW06	01/29/15 11:35	01/30/15 08:35	02/11/15 13:51	N/A	14.00	02/11/15 13:51	13.14	14.00	

Data for SW8260B
Supporting Raw Data / Logs

Sequence Name: C:\msdchem\1\sequence\101614V3.s
Comment: 8260B/C/624
Operator:
Data Path: C:\MSDCHEM\1\DATA\101614V3\
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:
Data Analysis Post-Seq Cmd:

10/16/14

1650

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line			Sample Name/Misc Info		
1)	Sample	100	BLK1	VW3SUR	BLANK
2)	Sample	100	BLK2	VW3SUR	BLANK
3)	Sample	100	BLK3	VW3SUR	BLANK
4)	Sample	1	1016TU1	VW3SUR	SEQ-TUN1 12:01, 10/16
5)	Sample	2	BLANK	VW3SUR	BLANK
6)	Sample	3	1016CALA	VW3SUR	SEQ-CALA
7)	Sample	4	1016CAL1	VW3SUR	SEQ-CAL1
8)	Sample	5	1016CAL2	VW3SUR	SEQ-CAL2
9)	Sample	6	1016CAL3	VW3SUR	SEQ-CAL3
10)	Sample	7	1016CAL4	VW3SUR	SEQ-CAL4
11)	Sample	8	1016CAL5	VW3SUR	SEQ-CAL5
12)	Sample	9	1016CAL6	VW3SUR	SEQ-CAL6
13)	Sample	10	1016CAL7	VW3SUR	SEQ-CAL7
14)	Sample	11	1016CAL8	VW3SUR	SEQ-CAL8
15)	Sample	12	1016CAL9	VW3SUR	SEQ-CAL9
16)	Sample	13	BLANK1	VW3SUR	BLANK
17)	Sample	14	1016ICV1	VW3SUR	SEQ-ICV1
18)	Sample	15	1016ICV2	VW3SUR	SEQ-ICV2
19)	Sample	16	1016ICV3	VW3SUR	SEQ-ICV3
20)	Sample	17	BLANK2	VW3SUR	BLANK
21)	Sample	18	BLANK3	VW3SUR	BLANK
22)	Sample	19	SURLODQ1	VW3SUR	SURLODQ1
23)	Sample	20	SURLODQ2	VW3SUR	SURLODQ2

WATER CALC

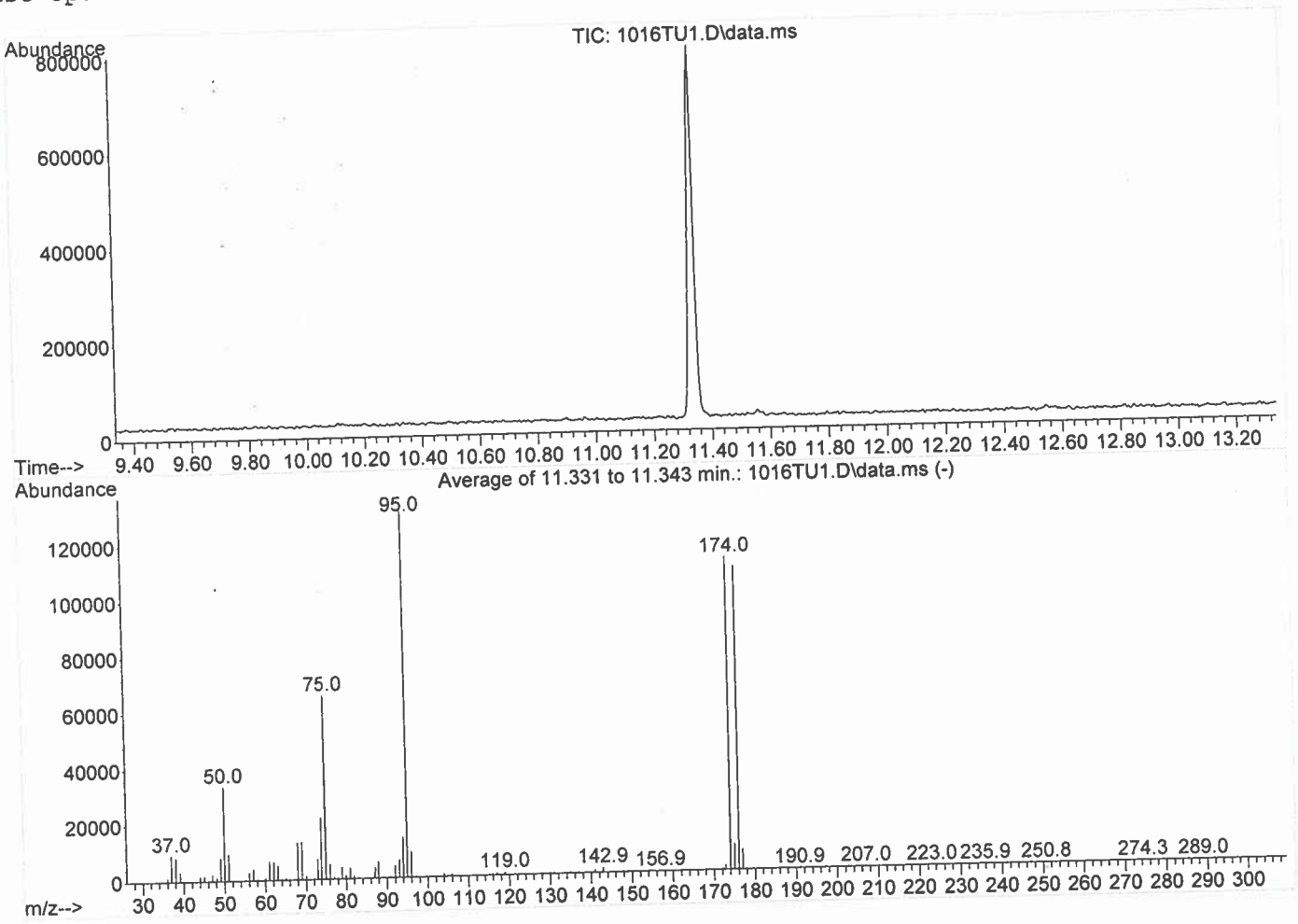
8:00, 10/16

Last Modified: Thu Oct 16 10:05:51 2014

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016TU1.D
Acq On : 16 Oct 2014 12:01 pm
Operator :
Sample : SEQ-TUN1
Misc : 1
ALS Vial : 1 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\METHODS\101614W3.M
Title : 8260B/C
Last Update : Fri Oct 17 12:22:57 2014



AutoFind: Scans 1619, 1620, 1621; Background Corrected with Scan 1611

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	25.7	33682	PASS
75	95	30	60	50.1	65664	PASS
95	95	100	100	100.0	130938	PASS
96	95	5	9	7.0	9217	PASS
173	174	0.00	2	1.5	1643	PASS
174	95	50	100	85.5	111973	PASS
175	174	5	9	8.2	9203	PASS
176	174	95	101	97.0	108635	PASS
177	176	5	9	6.6	7140	PASS

10/22/14

erage of 11.331 to 11.343 min.: 1016TU1.D\data.ms
Q-TUN1
dified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	1432	46.20	63	54.30	102	63.05	5141
37.00	9342	47.00	2471	55.15	528	63.80	279
38.05	8443	48.10	1142	56.00	2898	64.05	392
39.10	3360	49.05	8194	57.05	4084	64.25	118
40.00	116	50.05	33682	58.05	483	65.00	703
41.30	54	51.05	9595	59.10	46	66.00	185
41.95	210	52.00	474	59.80	274	66.95	282
42.30	72	52.20	12	59.90	336	68.00	13353
43.20	96	52.40	38	60.05	918	69.00	13577
44.00	1674	53.20	63	61.00	6695	70.05	1309
45.00	1788	54.00	236	62.05	6459	71.10	34

erage of 11.331 to 11.343 min.: 1016TU1.D\data.ms
EQ-TUN1
odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
71.30	86	80.95	3865	89.95	46	99.80	18
71.80	49	81.90	1135	90.60	335	100.60	26
72.05	439	82.95	194	90.95	346	102.00	25
72.95	7298	83.70	69	92.05	4270	103.00	35
74.00	22063	84.30	28	93.05	6331	103.50	143
75.00	65664	84.60	44	94.00	14445	103.95	1038
76.05	5339	85.80	340	94.95	130938	104.90	274
77.05	770	86.20	58	96.00	9217	105.90	816
78.00	455	86.90	1977	97.10	413	106.80	126
78.95	4203	87.10	3789	97.70	21	107.20	54
79.95	1312	87.95	5833	98.00	59	107.90	106

verage of 11.331 to 11.343 min.: 1016TU1.D\data.ms
EQ-TUN1
odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
109.40	20	114.75	102	123.80	81	131.30	45
109.90	97	115.15	212	124.00	23	132.00	38
110.10	23	115.95	584	124.40	32	133.40	23
110.70	98	116.95	831	125.00	107	133.60	22
111.00	112	117.85	292	125.80	59	133.80	21
111.80	109	118.20	117	126.60	25	134.10	29
112.05	184	118.95	976	127.70	138	134.90	481
112.60	24	119.75	54	127.95	204	135.20	113
112.95	124	121.10	35	129.05	255	135.60	35
113.90	55	122.20	87	130.00	445	135.90	124
114.10	28	122.95	119	130.90	172	136.60	78

verage of 11.331 to 11.343 min.: 1016TU1.D\data.ms
SEQ-TUN1
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
136.90	275	145.15	157	153.10	71	160.80	64
137.20	70	145.95	271	153.80	48	160.95	47
138.90	50	147.00	73	154.20	170	161.60	20
139.80	91	147.20	112	154.90	563	162.15	57
140.10	108	147.80	386	155.50	19	164.40	38
140.90	1215	148.10	90	156.00	41	165.40	63
141.90	121	149.00	168	156.95	285	167.10	67
142.90	1757	149.75	164	157.80	48	167.70	75
143.85	137	150.80	18	158.10	65	168.10	197
144.20	55	151.90	119	158.70	137	168.30	50
144.60	23	152.75	84	159.05	37	169.10	82

Average of 11.331 to 11.343 min.: 1016TU1.D\data.ms
SEQ-TUN1
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
169.75	120	179.00	23	189.10	19	200.10	28
170.40	54	179.50	45	189.90	26	200.90	51
170.95	136	182.15	79	190.10	31	204.20	21
171.90	274	183.10	52	190.90	42	206.60	35
172.20	523	183.80	24	192.90	26	207.00	196
172.80	1643	184.60	48	193.30	23	207.50	58

174.00	111973	184.90	90	194.80	45	207.95	94
175.00	9203	185.40	30	197.20	40	208.60	17
176.00	108635	186.80	17	198.30	23	209.10	24
176.95	7140	187.30	27	198.50	19	211.20	20
177.95	281	187.95	40	199.05	41	212.50	66

verage of 11.331 to 11.343 min.: 1016TU1.D\data.ms
EQ-TUN1
odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
214.30	48	231.40	53	247.60	28	260.90	27
215.10	19	235.95	94	249.15	53	267.30	29
215.90	37	237.90	26	250.10	58	267.60	46
221.70	23	238.20	22	250.80	102	269.05	61
223.00	70	239.00	20	251.60	63	270.60	22
226.40	17	239.40	25	252.10	30	274.30	67
227.00	26	240.10	28	252.80	20	275.90	42
228.00	49	240.50	25	256.80	22	278.50	32
229.50	41	240.80	21	257.10	33	279.90	17
230.10	76	241.80	24	258.00	21	280.10	19
230.70	47	245.00	20	259.10	20	282.15	3

verage of 11.331 to 11.343 min.: 1016TU1.D\data.ms
EQ-TUN1
odified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
285.10	20	297.60	21				
287.10	19	298.70	52				
287.40	18	299.30	30				
287.60	18						
288.30	18						
289.00	91						
289.60	17						
291.15	71						
294.30	63						
294.80	30						
296.80	24						

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 12:05:52 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration

10/10/14

SP 10/22/14

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	6.865	96	853003	30.00	ug/L		0.00
59) Chlorobenzene-d5	10.114	82	338758	30.00	ug/L		0.00
81) 1,4-Dichlorobenzene-d4	12.547	152	294972	30.00	ug/L	#	0.00
System Monitoring Compounds							
37) Dibromofluoromethane	5.789	111	240878	31.14	ug/L		0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 103.80%				
41) 1,2-Dichloroethane-d4	6.318	102	57209	30.45	ug/L		0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 101.50%				
60) Toluene-d8	8.642	98	804236	29.71	ug/L		0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 99.03%				
80) Bromofluorobenzene	11.337	95	276550	27.14	ug/L		0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 90.47%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.536	85	4314	0.5450	ug/L		93
3) Chloromethane	1.694	50	11144m	0.8626	ug/L		
4) Vinyl chloride	1.798	62	4718	0.6515	ug/L	#	45
5) Bromomethane	2.132	94	4531m	0.9678	ug/L		
6) Chloroethane	2.224	64	3309m	0.6139	ug/L		
7) Trichlorofluoromethane	2.583	101	6411	0.5722	ug/L		87
8) Acrolein	2.716	56	6420	3.1811	ug/L		96
9) Acetone	2.789	43	8052	1.6089	ug/L		99
10) Acetonitrile	2.856	41	12958	5.8403	ug/L		88
11) Ethyl Ether	2.875	59	4520	0.5690	ug/L		88
12) 1,1-Dichloroethene	3.148	96	3475	0.4949	ug/L	#	90
13) Trichlorotrifluoroethane	3.191	101	4064	0.5739	ug/L		98
14) Iodomethane	3.300	142	2510	0.3724	ug/L		93
15) t-Butyl Alcohol	3.240	59	3427	2.7888	ug/L		98
16) Methyl Acetate	3.410	43	6945m	0.5285	ug/L		
17) Acrylonitrile	3.434	53	15143	2.7032	ug/L		90
18) Allyl chloride	3.495	76	2225	0.5647	ug/L		82
19) Methylene chloride	3.532	84	10767	1.1182	ug/L		87
20) Carbon disulfide	3.611	76	11196	0.5232	ug/L		97
21) trans-1,2-dichloroethene	4.183	96	4060	0.5328	ug/L		96
22) MTBE	4.176	73	11774	0.4719	ug/L	#	77
23) 1,1-Dichloroethane	4.584	63	8602	0.5082	ug/L		98
24) Vinyl acetate	4.657	43	22275	0.8584	ug/L	#	96
25) Propionitrile	4.785	54	9839	4.6458	ug/L	#	89
26) Hexane	4.785	57	3987	0.4901	ug/L	#	86
27) Chloroprene	4.858	53	7133	0.4610	ug/L	#	73
28) Di-isopropyl ether	4.961	45	19538	0.4922	ug/L		99
29) 2-Butanone	5.077	43	7947	1.0142	ug/L		99
30) Methacrylonitrile	5.241	41	46920	4.9756	ug/L		98
31) cis-1,2-Dichloroethene	5.338	96	5080	0.6039	ug/L		89
32) 2,2-Dichloropropane	5.448	77	6470	0.5666	ug/L		99
33) ETBE	5.448	59	14715	0.4891	ug/L	#	89
34) Chloroform	5.612	83	8445	0.5405	ug/L		89
35) Bromochloromethane	5.636	128	2756m	0.5987	ug/L		
36) Isobutyl alcohol	5.710	42	2285	6.3051	ug/L	#	22
38) Tetrahydrofuran	5.819	72	1241m	0.8939	ug/L		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 12:05:52 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39) tert-Amyl alcohol	5.995	59	1753m	1.9234 ug/L	
40) 1,1,1-Trichloroethane	6.190	97	6439	0.5169 ug/L	98
42) 1,2-Dichloroethane	6.409	62	7276	0.4979 ug/L #	97
43) 1,1-Dichloropropene	6.421	75	4957	0.4709 ug/L #	89
44) Cyclohexane	6.470	56	7341	0.4592 ug/L	94
45) Carbon tetrachloride	6.549	117	4622	0.4591 ug/L	96
46) Benzene	6.579	78	16368	0.5047 ug/L	94
47) tert- Amyl Methyl Ether	6.786	73	10271	0.4448 ug/L #	90
48) Trichloroethene	7.382	95	4224	0.4978 ug/L	91
49) 1,2-Dichloropropane	7.443	63	5729	0.5696 ug/L #	85
50) Dibromomethane	7.559	93	3078	0.5078 ug/L	94
51) Methyl methacrylate	7.608	41	5178m	0.4119 ug/L	
52) 1,4-Dioxane	7.620	88	1505	11.1039 ug/L	96
53) Bromodichloromethane	7.626	83	6075	0.5184 ug/L	89
54) tert- Amyl Ethyl Ether	7.729	59	10193	0.4406 ug/L #	88
55) Methyl cyclohexane	7.766	83	5414	0.4556 ug/L	92
56) 2-Chloroethyl vinyl ether	8.021	63	5585	0.9466 ug/L #	86
57) 4-Methyl-2-pentanone	8.167	43	15000	1.0263 ug/L #	85
58) cis-1,3-Dichloropropene	8.234	75	5948	0.4888 ug/L #	88
61) trans-1,3-Dichloropropene	8.739	75	5187	0.4295 ug/L #	77
62) Toluene	8.721	92	10055	0.5079 ug/L #	88
63) 1,1,2-Trichloroethane	8.897	83	3790	0.5441 ug/L	96
64) Ethyl methacrylate	8.940	69	4849	0.4313 ug/L	95
65) 2-Hexanone	9.055	43	10052	1.0321 ug/L #	79
66) 1,3-Dichloropropane	9.110	76	7010	0.5017 ug/L #	83
67) Dibromochloromethane	9.366	129	4090	0.4853 ug/L	97
68) Tetrachloroethene	9.469	166	3215	0.4015 ug/L #	73
69) 1,2-Dibromoethane	9.585	107	3991	0.4676 ug/L	94
70) 1-Chlorohexane	10.126	91	5191	0.6125 ug/L #	19
71) Chlorobenzene	10.144	112	9778	0.4413 ug/L	95
72) 1,1,1,2-Tetrachloroethane	10.205	131	4215	0.5493 ug/L #	54
73) Ethylbenzene	10.309	91	15216	0.4411 ug/L	98
74) m,p-Xylene	10.418	91	23652	0.8527 ug/L	91
75) Styrene	10.789	104	8325	0.3875 ug/L	87
76) o-Xylene	10.814	91	11630	0.3861 ug/L	92
77) Bromoform	10.887	173	2510	0.4672 ug/L #	81
78) Isopropylbenzene	11.227	105	11597	0.3685 ug/L	94
79) 1,2,3-Trichloropropane	11.282	110	1875	0.4879 ug/L #	1
82) cis-1,4-Dichloro-2-butene	11.002	53	1425	0.4300 ug/L	94
83) 1,1,2,2-Tetrachloroethane	11.154	83	5910	0.5738 ug/L	96
84) trans-1,4-Dichloro-2-b...	11.312	53	2476	0.7074 ug/L #	1
85) Bromobenzene	11.489	156	4149	0.4674 ug/L	93
86) n-Propylbenzene	11.635	91	14270	0.3939 ug/L	100
87) 2-Chlorotoluene	11.714	91	10550	0.4389 ug/L	99
88) 4-Chlorotoluene	11.781	91	8845m	0.3707 ug/L	
89) 1,3,5-Trimethylbenzene	11.817	105	10412	0.3844 ug/L	94
90) tert-Butylbenzene	12.164	119	10641	0.3889 ug/L #	87
91) 1,2,4-Trimethylbenzene	12.195	105	11439	0.4000 ug/L	98
92) sec-Butylbenzene	12.395	105	13394	0.4090 ug/L	98
93) 1,3-Dichlorobenzene	12.481	146	7200	0.4656 ug/L	84
94) 1,4-Dichlorobenzene	12.578	146	7781m	0.5026 ug/L	
95) p-Isopropyltoluene	12.541	119	11998m	0.4268 ug/L	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 12:05:52 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration

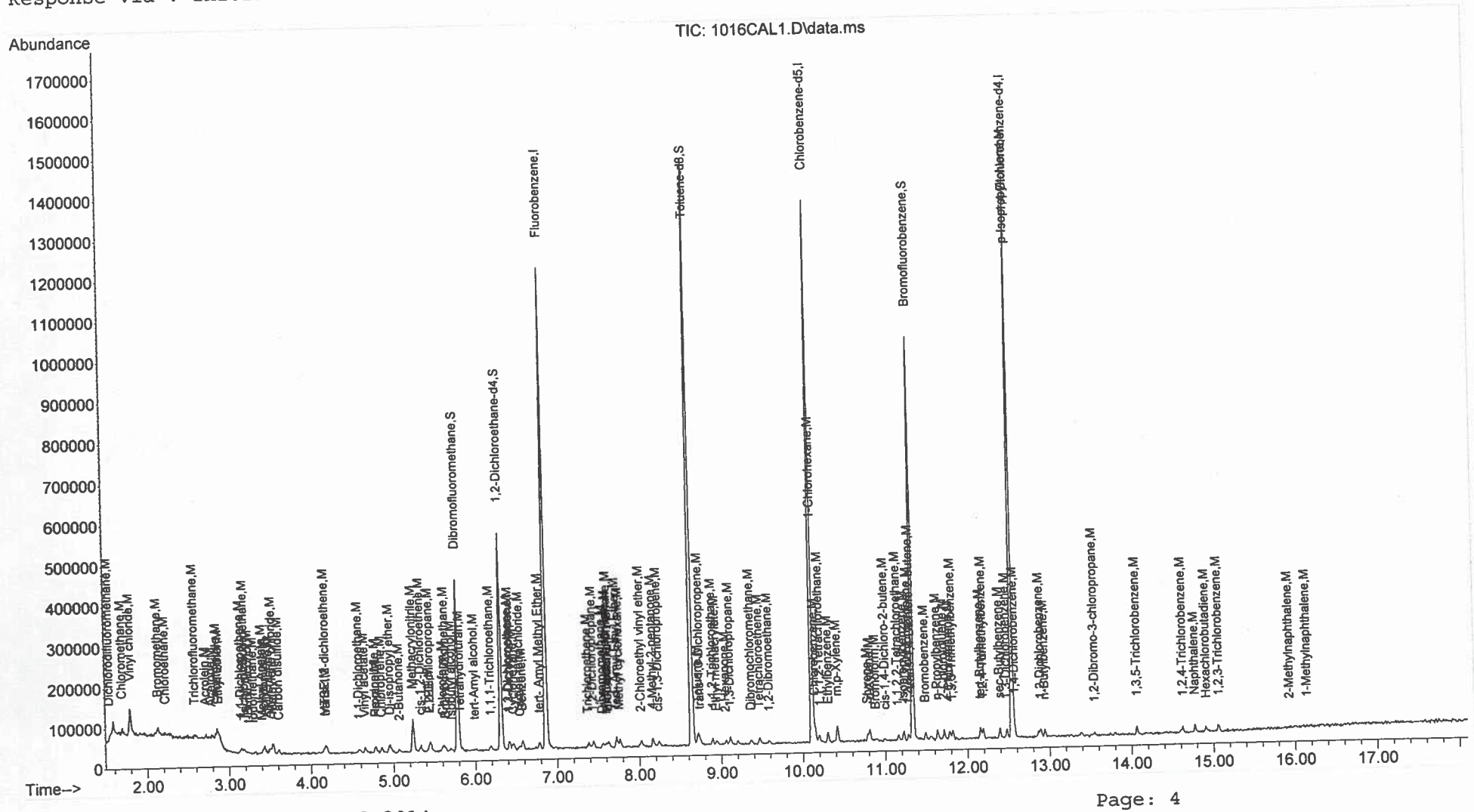
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
96) 1,2-Dichlorobenzene	12.894	146	7782	0.4884	ug/L		93
97) n-Butylbenzene	12.943	91	8227	0.3468	ug/L		92
98) 1,2-Dibromo-3-chloropr...	13.551	157	1184m	0.5533	ug/L		
99) 1,3,5-Trichlorobenzene	14.068	180	5334	0.4927	ug/L	#	79
100) 1,2,4-Trichlorobenzene	14.628	180	3742	0.3813	ug/L		100
101) Naphthalene	14.774	128	11357	0.3712	ug/L		100
102) Hexachlorobutadiene	14.914	225	2352	0.4974	ug/L		93
103) 1,2,3-Trichlorobenzene	15.066	180	4857	0.4608	ug/L		90
104) 2-Methylnaphthalene	15.930	142	1140	0.0655	ug/L		86
105) 1-Methylnaphthalene	16.143	142	723	0.0422	ug/L		91

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

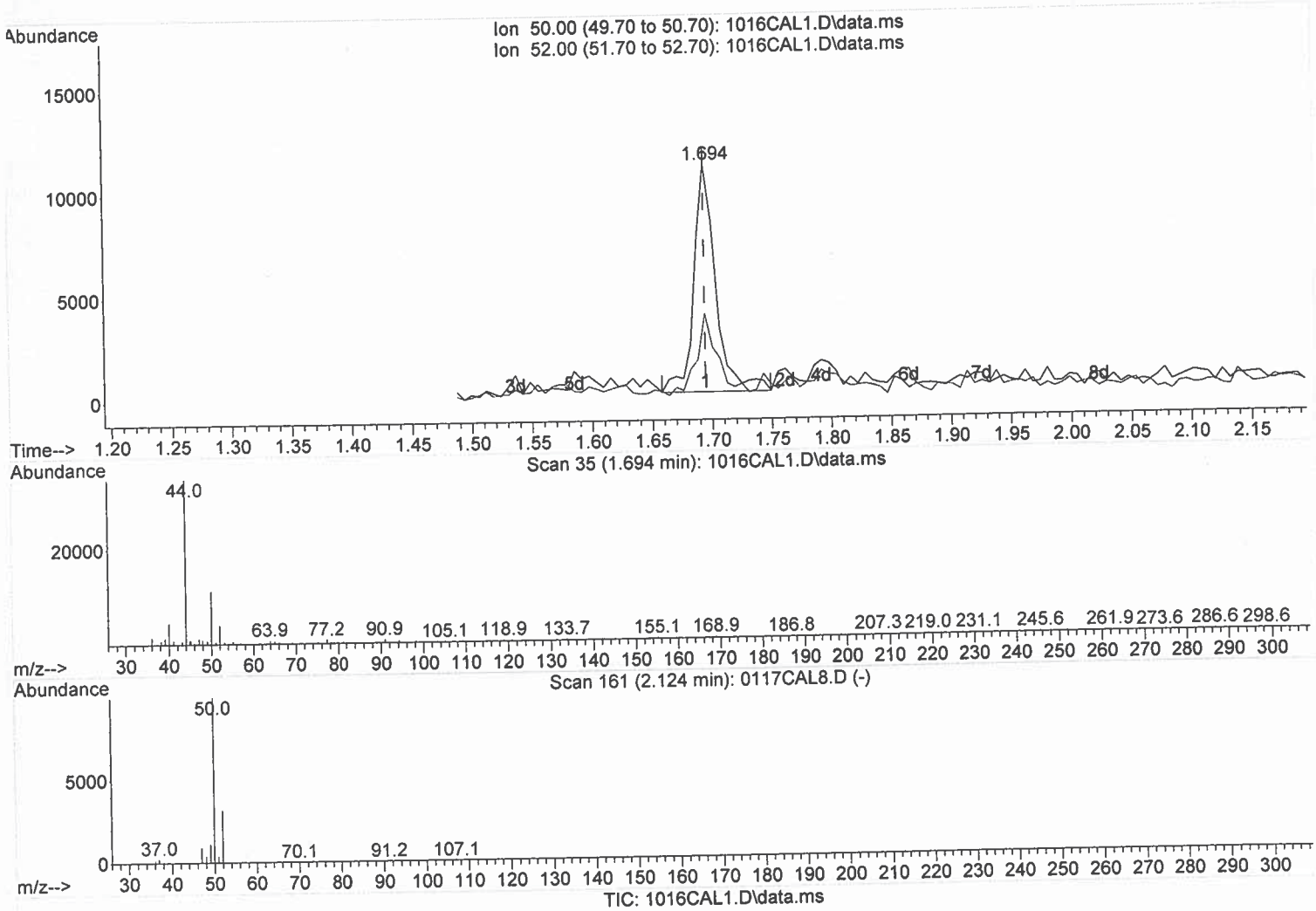
Quant Time: Oct 17 12:05:52 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:47:13 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



(3) Chloromethane (M)

1.694min (+0.000) 1.08 ug/L

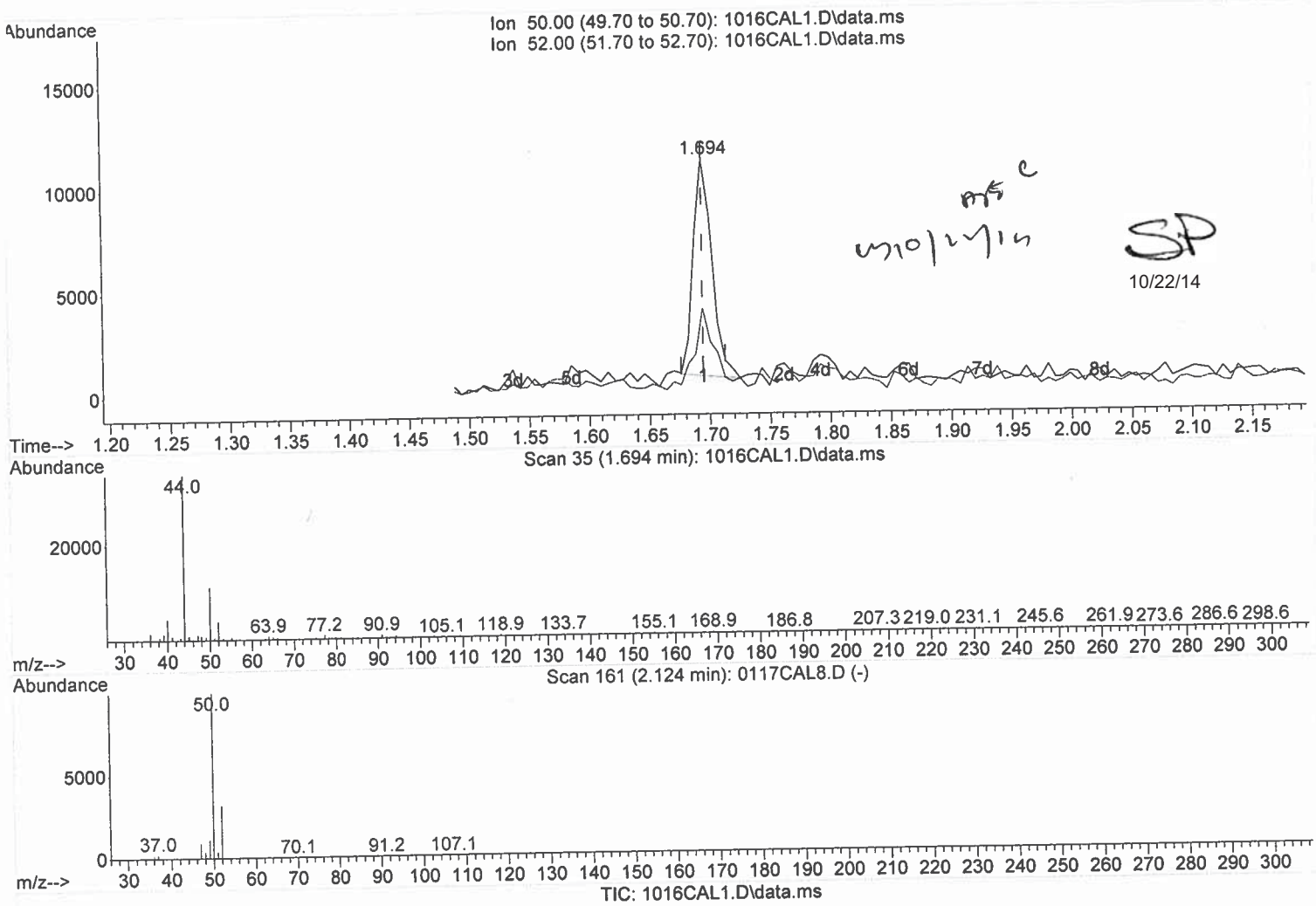
response 13932

Ion	Exp%	Act%
50.00	100	100
52.00	31.70	34.17
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:57:31 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



(3) Chloromethane (M)

1.694min (+0.000) 0.86 ug/L m

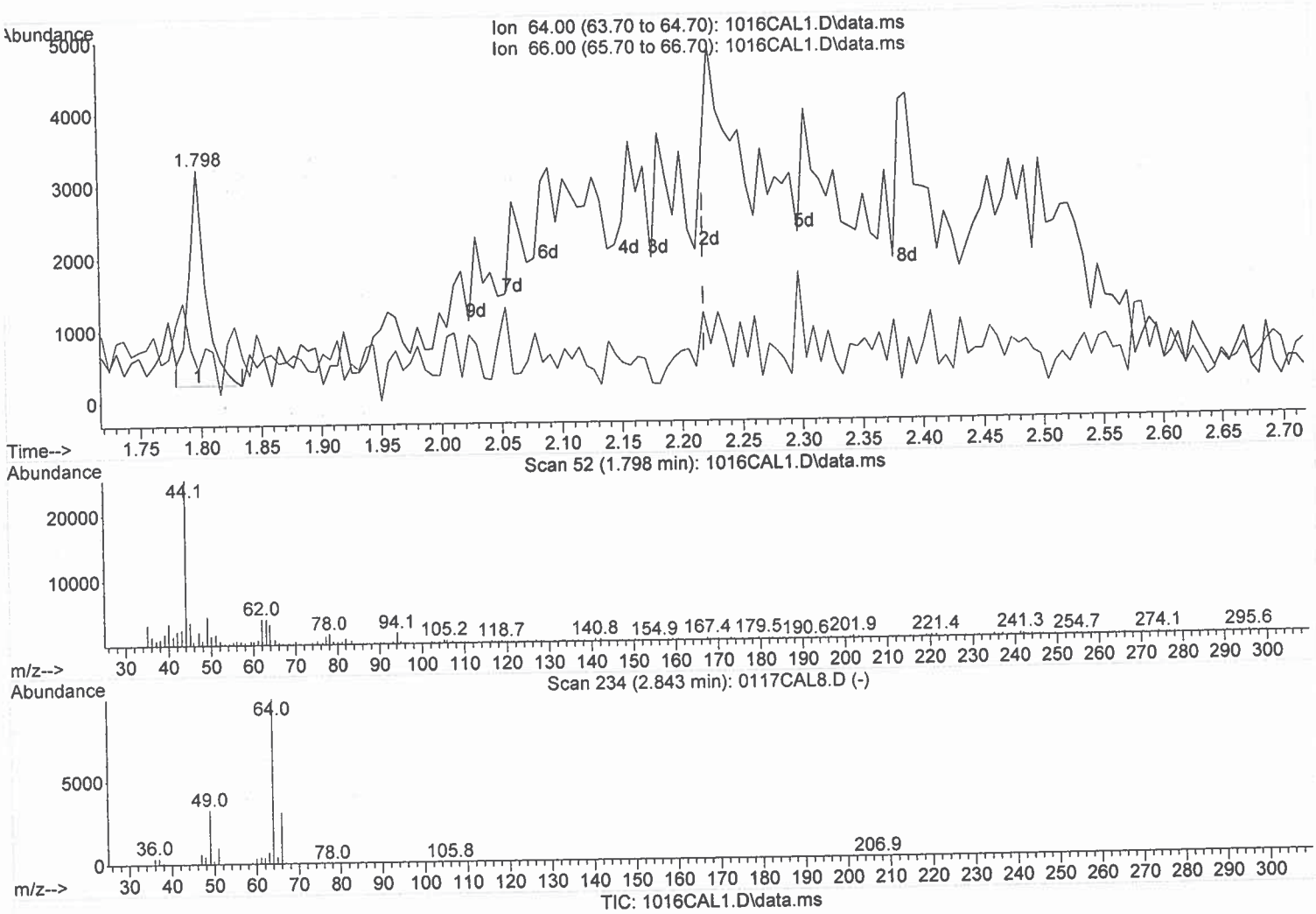
response 11144

Ion	Exp%	Act%
50.00	100	100
52.00	31.70	42.71#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:40:03 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



(6) Chloroethane (M)

1.798min (-0.420) 0.52 ug/L

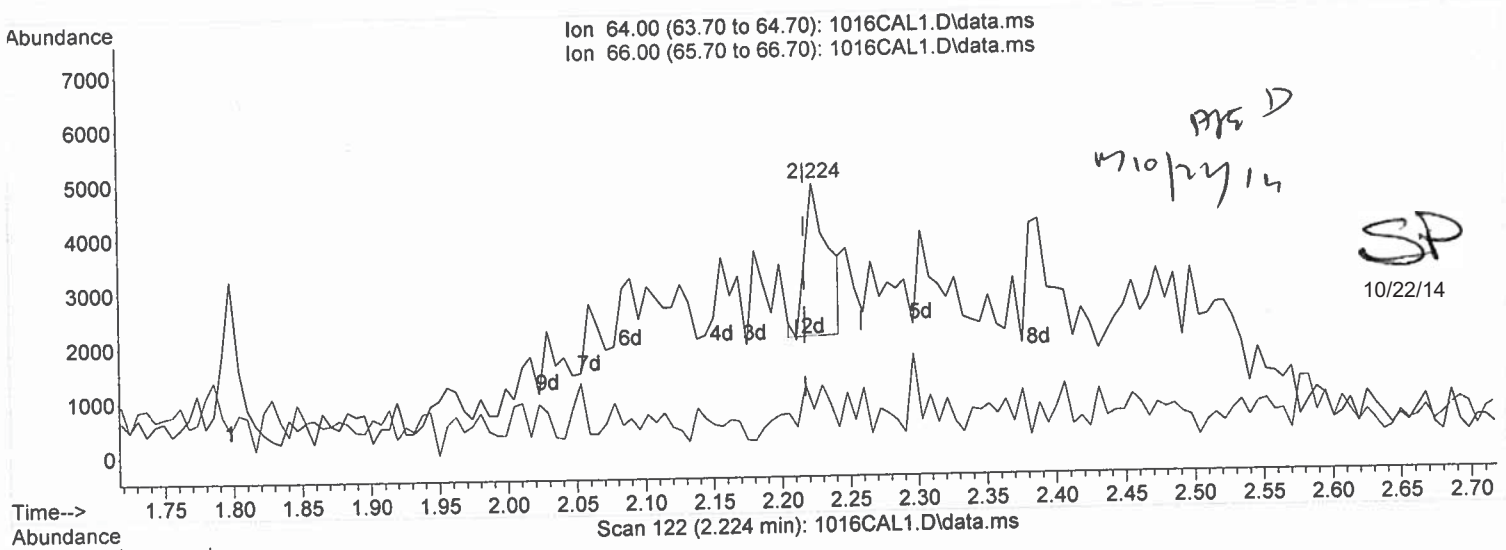
response 2823

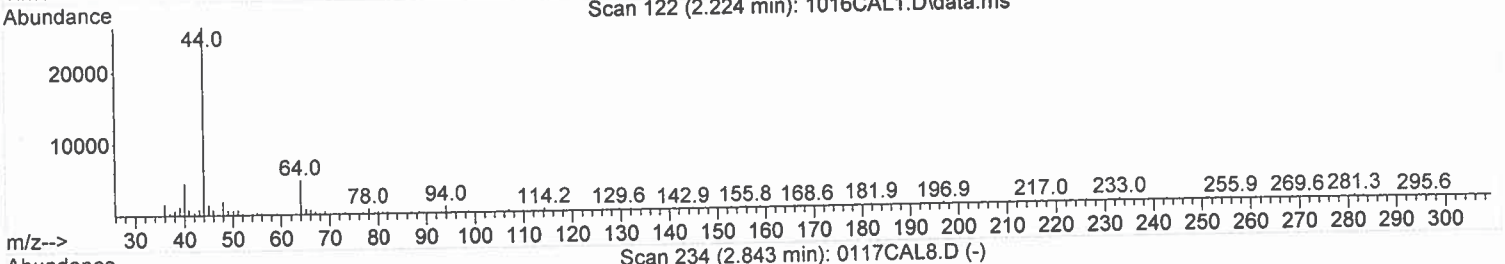
Ion	Exp%	Act%
64.00	100	100
66.00	30.70	25.93
0.00	0.00	0.00
0.00	0.00	0.00

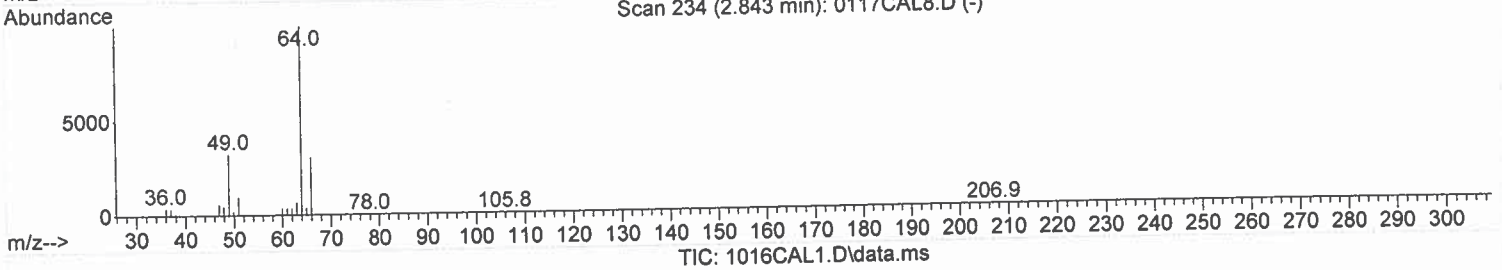
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:58:15 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration







(6) Chloroethane (M)

2.224min (+0.006) 0.61 ug/L m

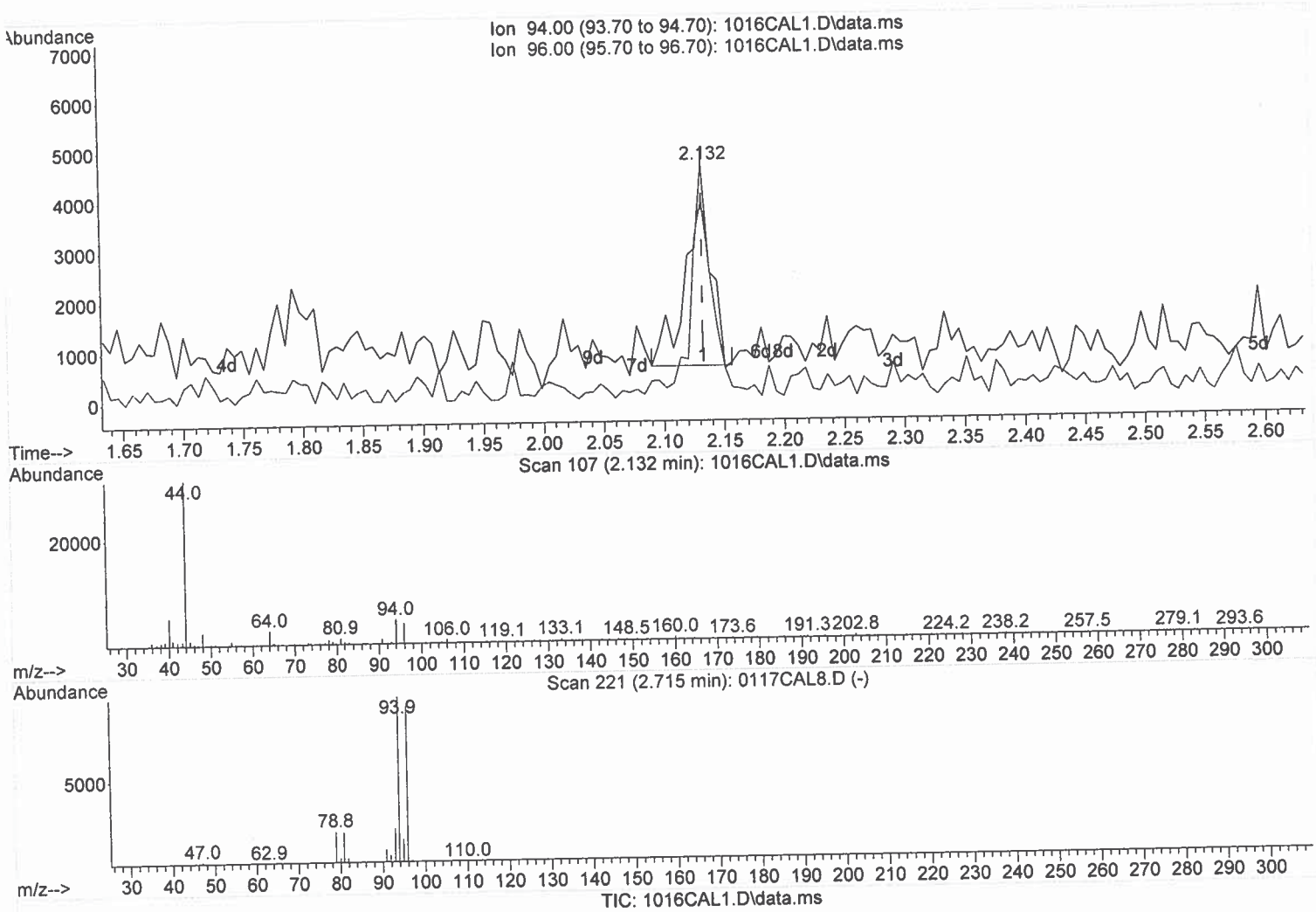
response 3309

Ion	Exp%	Act%
64.00	100	100
66.00	30.70	22.12#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:58:15 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



(5) Bromomethane (M)

2.132min (+0.000) 1.15 ug/L

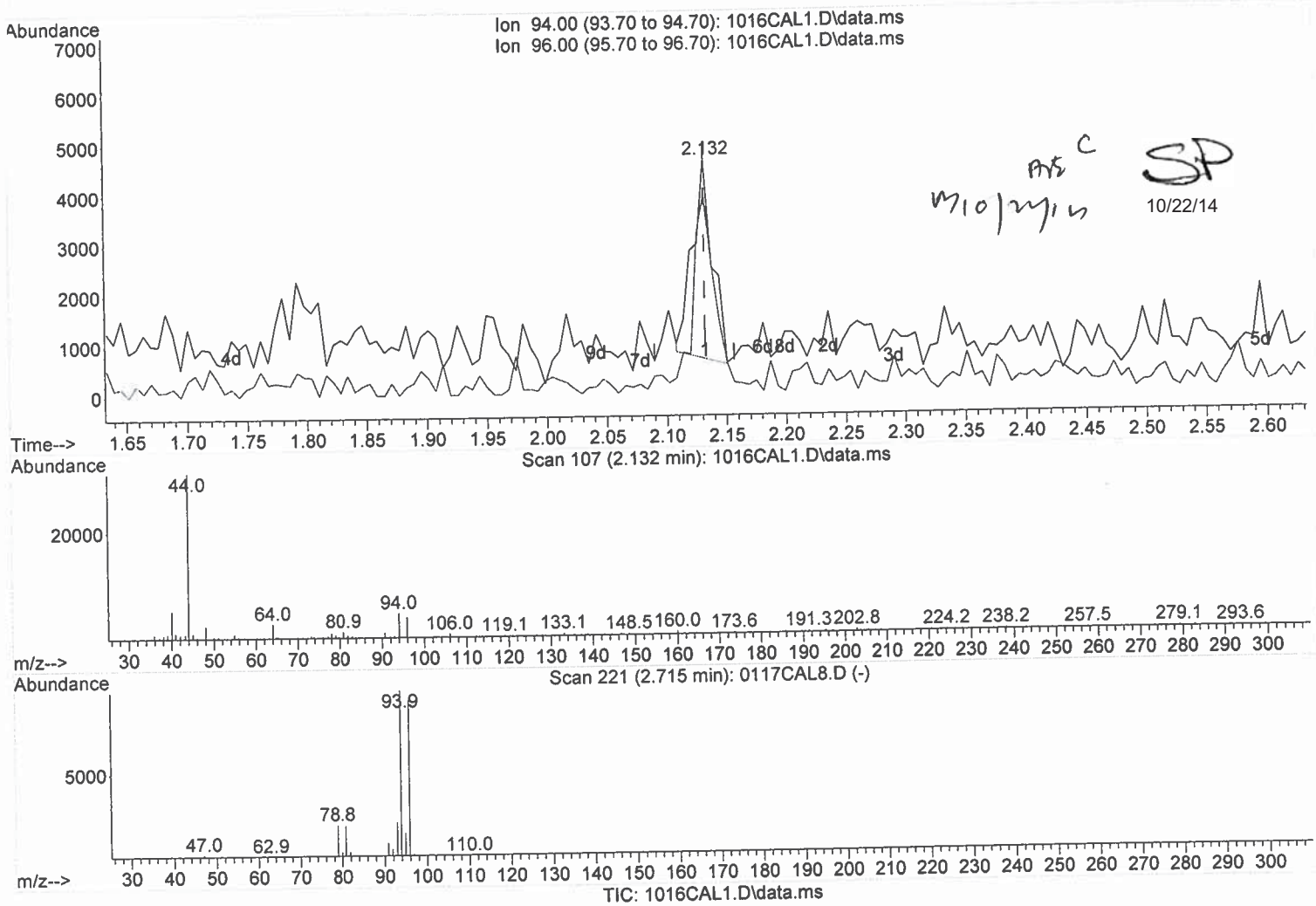
response 5378

Ion	Exp%	Act%
94.00	100	100
96.00	95.50	103.11
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:58:15 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



(5) Bromomethane (M)

2.132min (+0.000) 0.97 ug/L m

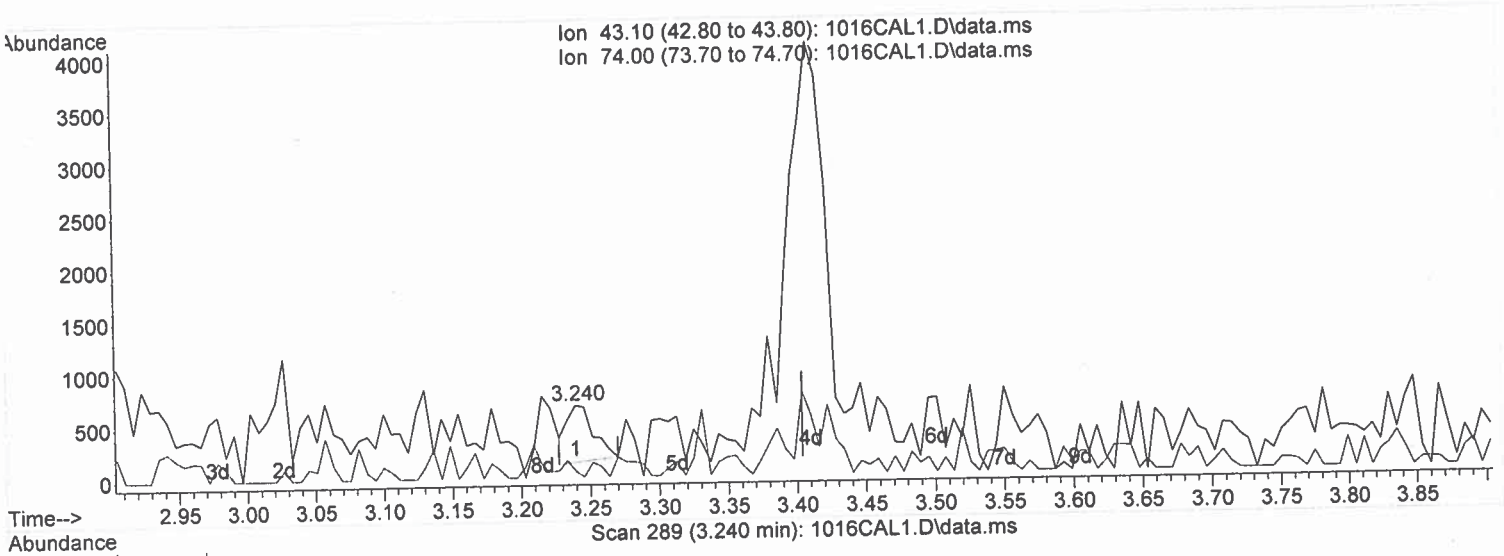
response 4531

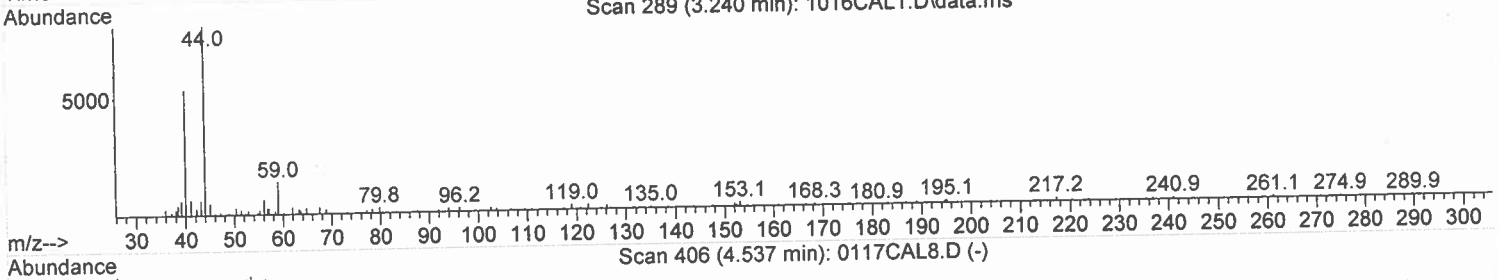
Ion	Exp%	Act%
94.00	100	100
96.00	95.50	122.38#
0.00	0.00	0.00
0.00	0.00	0.00

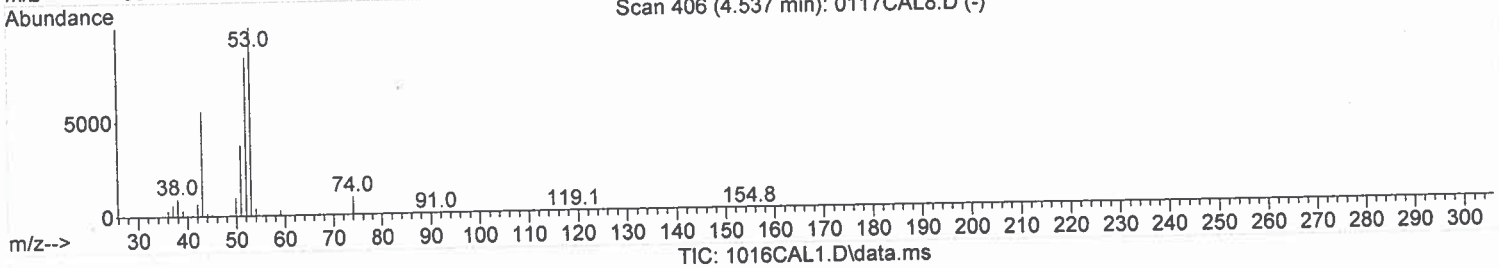
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:40:03 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration







TIC: 1016CAL1.D\data.ms

(16) Methyl Acetate (M)

3.240min (-0.164) 0.06 ug/L

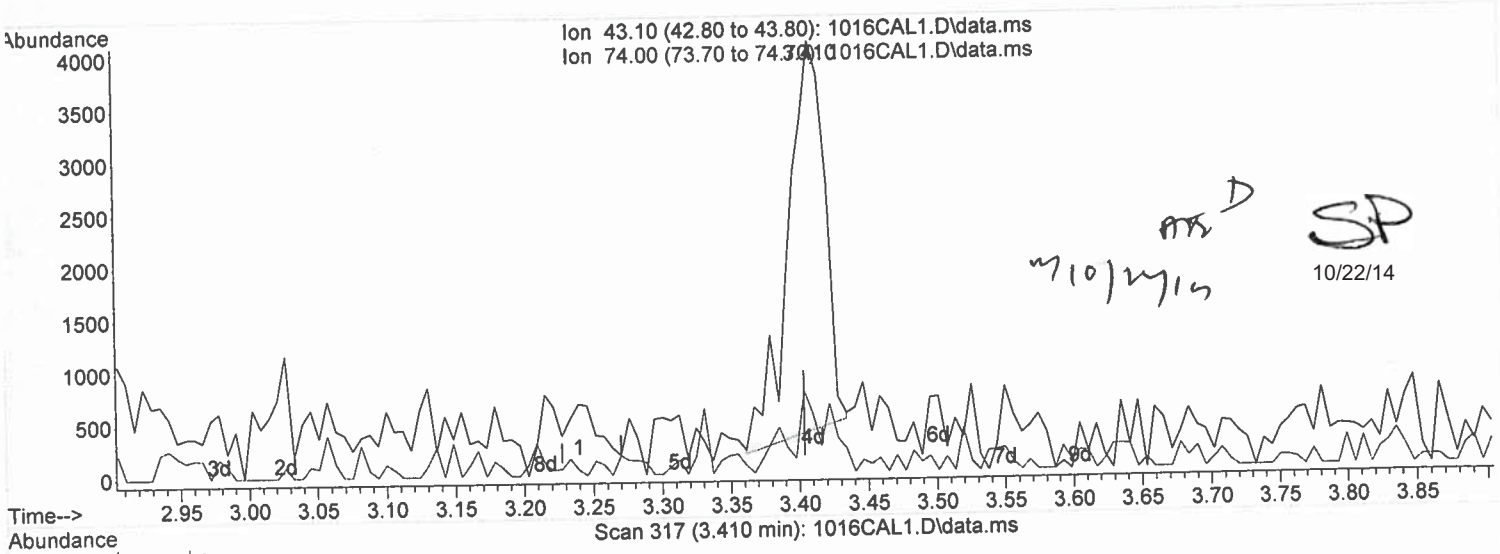
response 729

Ion	Exp%	Act%
43.10	100	100
74.00	14.50	13.44
0.00	0.00	0.00
0.00	0.00	0.00

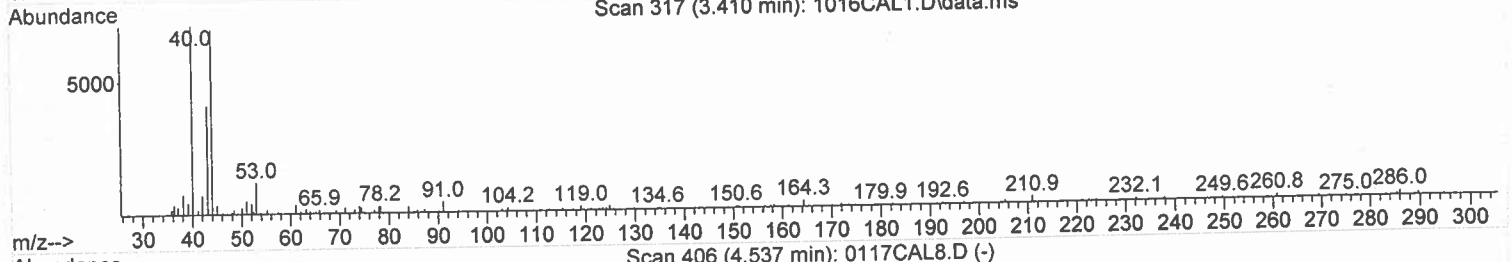
Quantitation Report (Qedit)

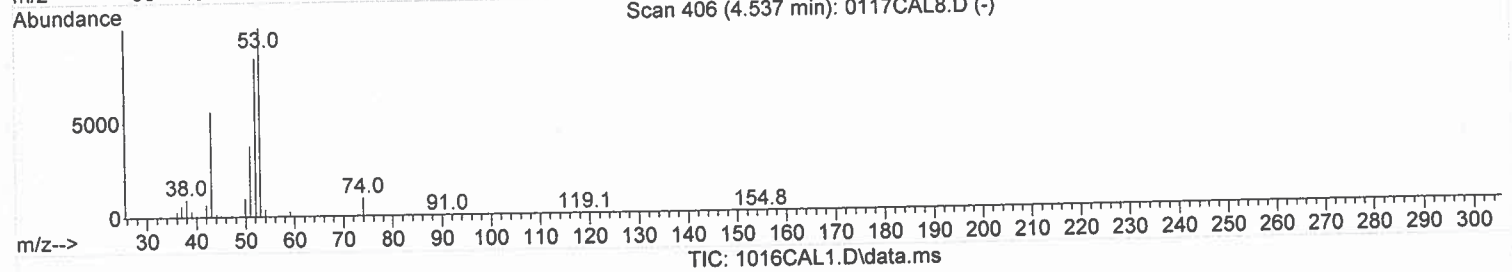
Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:40:03 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



MD 10/22/14





TIC: 1016CAL1.D\data.ms

(16) Methyl Acetate (M)

3.410min (+0.006) 0.53 ug/L m

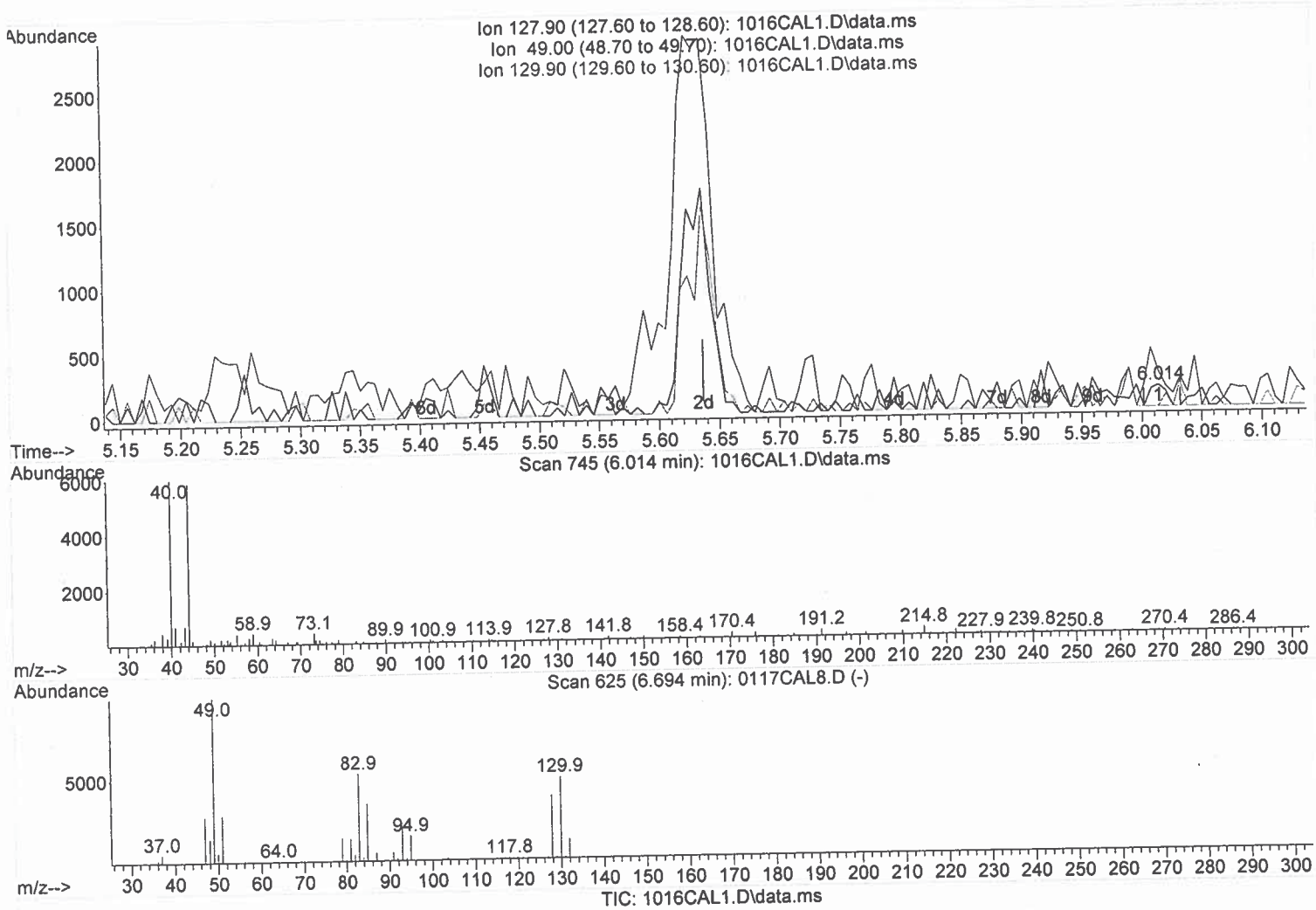
response 6945

Ion	Exp%	Act%
43.10	100	100
74.00	14.50	1.41#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:40:03 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



(35) Bromochloromethane (M)

6.014min (+0.377) 0.03 ug/L

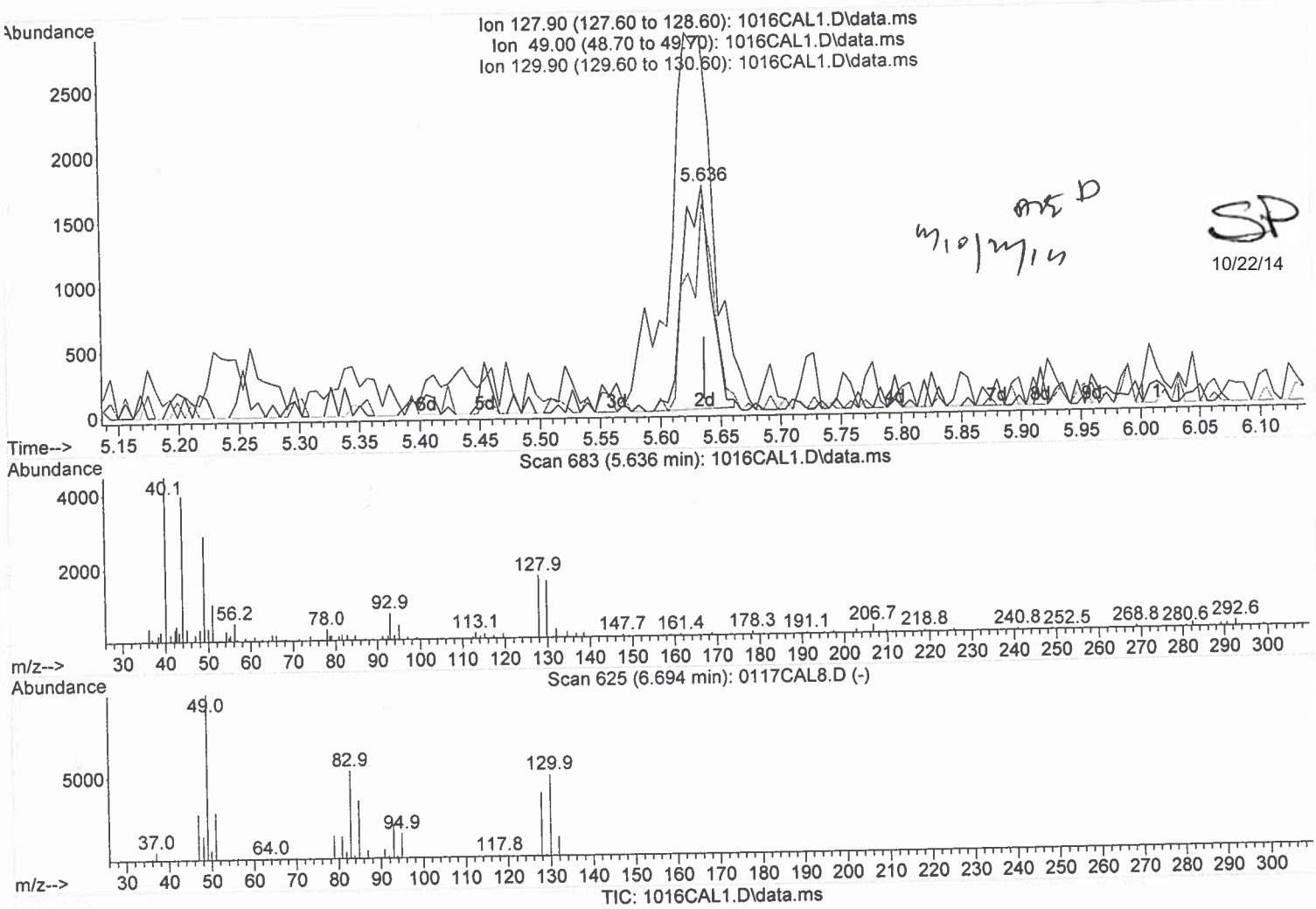
response 151

Ion	Exp%	Act%
127.90	100	100
49.00	290.10	274.17
129.90	128.40	117.22
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:40:03 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



TIC: 1016CAL1.D\data.ms

SP 10/22/14

(35) Bromochloromethane (M)

5.636min (+0.000) 0.60 ug/L m

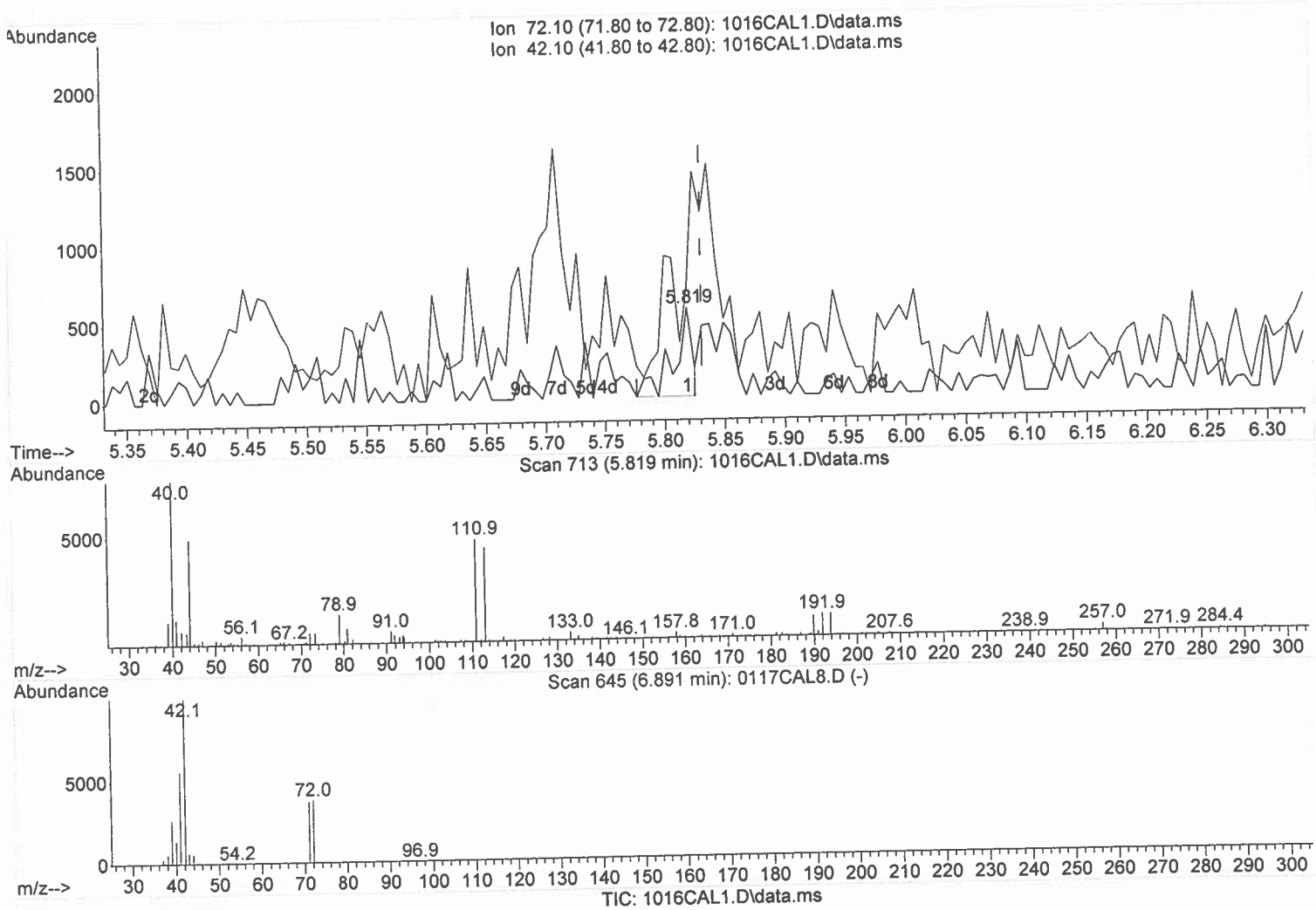
response 2756

Ion	Exp%	Act%
127.90	100	100
49.00	290.10	15.02#
129.90	128.40	6.42#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:40:03 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



(38) Tetrahydrofuran (M)

5.819min (-0.012) 0.43 ug/L

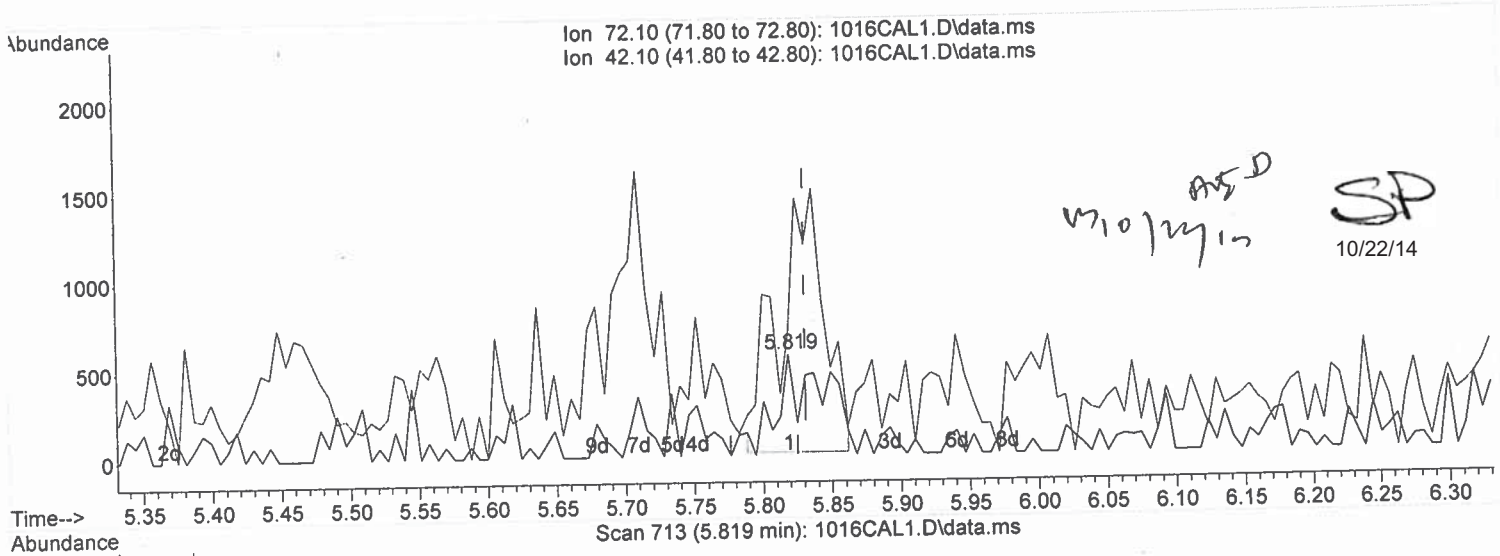
response 600

Ion	Exp%	Act%
72.10	100	100
42.10	360.60	345.50
0.00	0.00	0.00
0.00	0.00	0.00

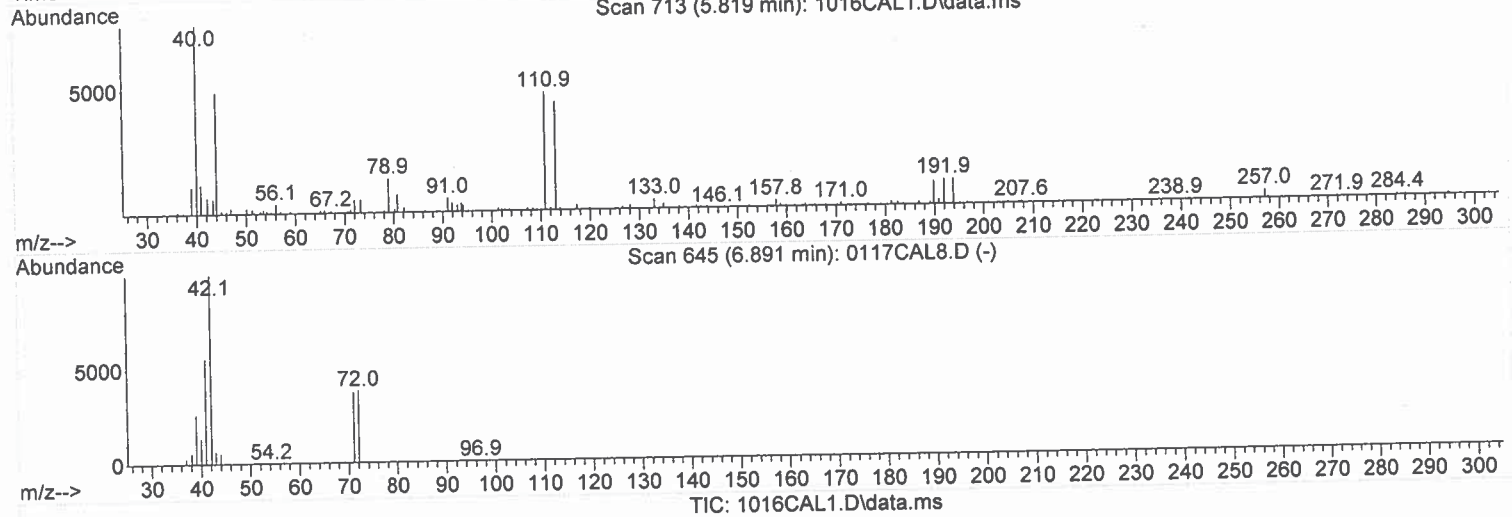
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:40:03 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



10/22/14



(38) Tetrahydrofuran (M)

5.819min (-0.012) 0.89 ug/L m

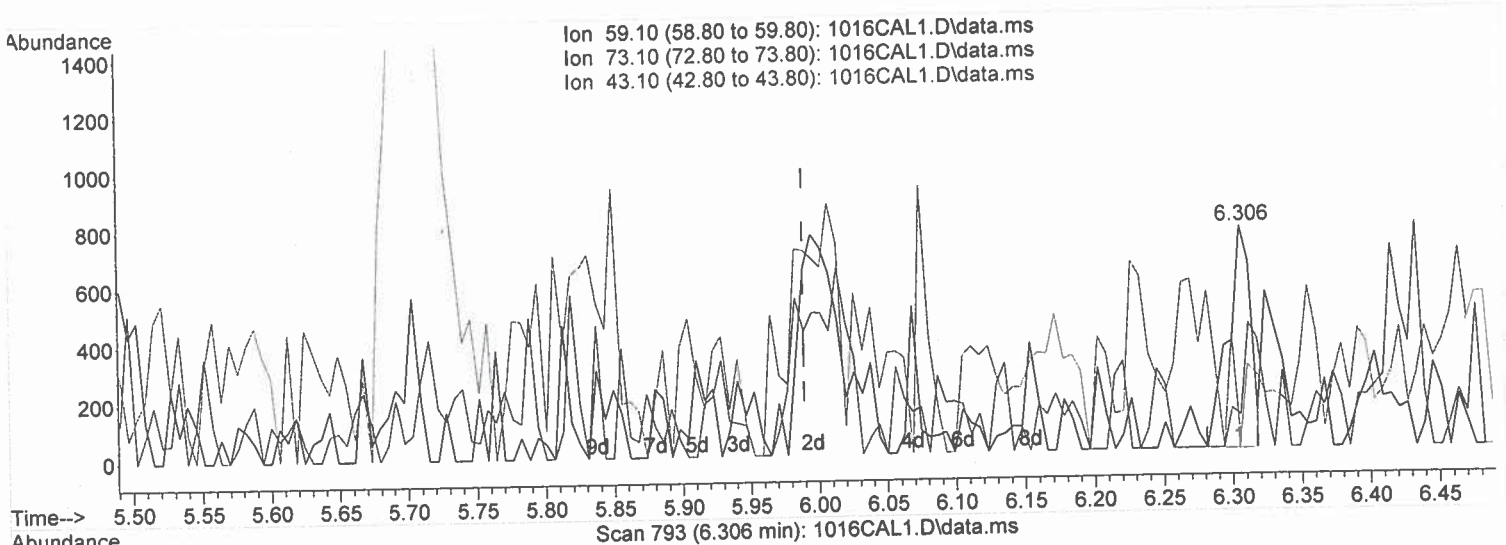
response 1241

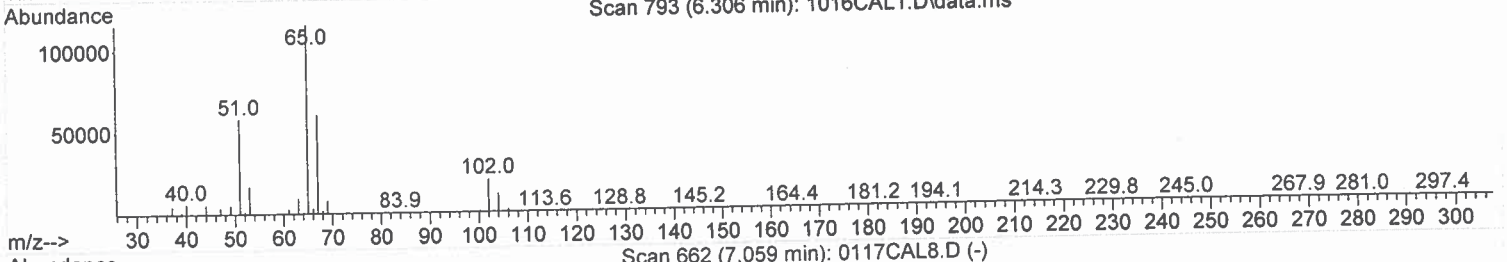
Ion	Exp%	Act%
72.10	100	100
42.10	360.60	167.04#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

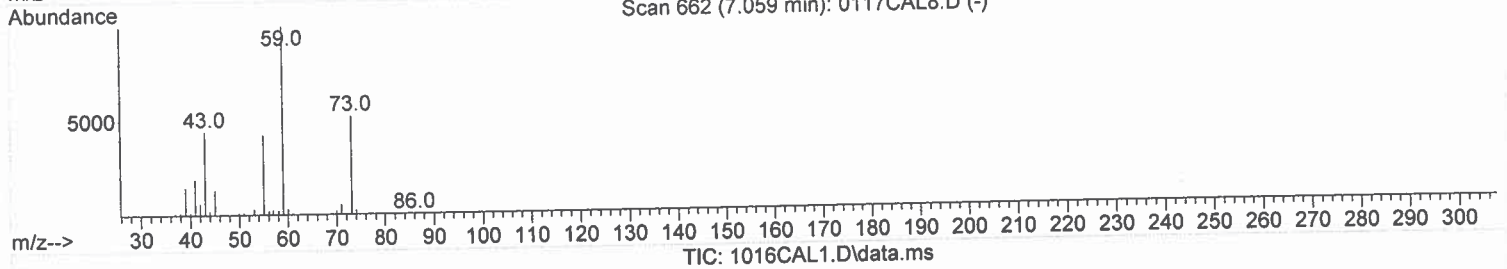
Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:40:03 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration





Scan 662 (7.059 min): 0117CAL8.D (-)



TIC: 1016CAL1.D\data.ms

(39) tert-Amyl alcohol (M)

6.306min (+0.316) 0.97 ug/L

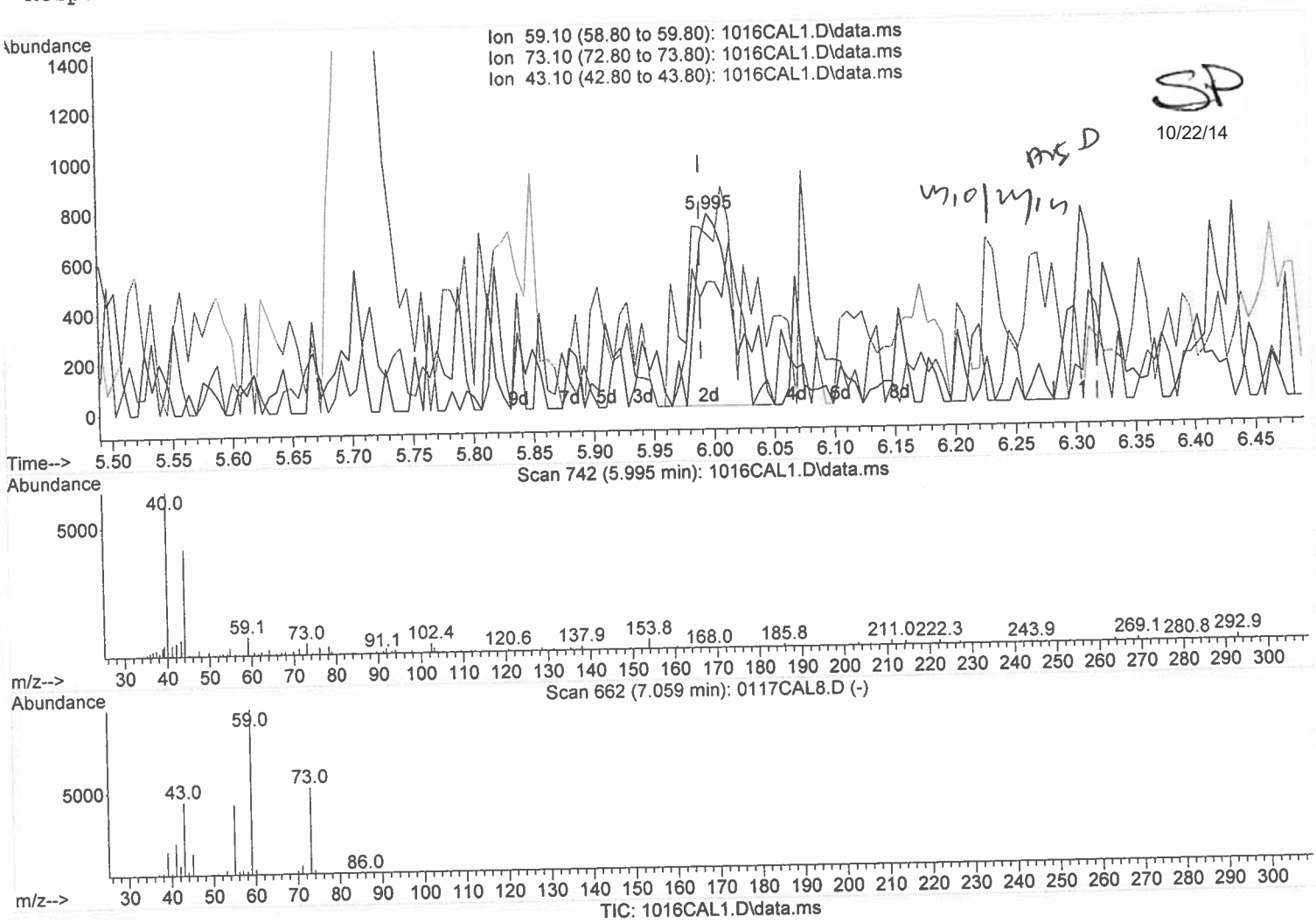
response 888

Ion	Exp%	Act%
59.10	100	100
73.10	50.20	50.34
43.10	43.20	50.68
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:40:03 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



SP 10/22/14

(39) tert-Amyl alcohol (M)

5.995min (+0.006) 1.92 ug/L m

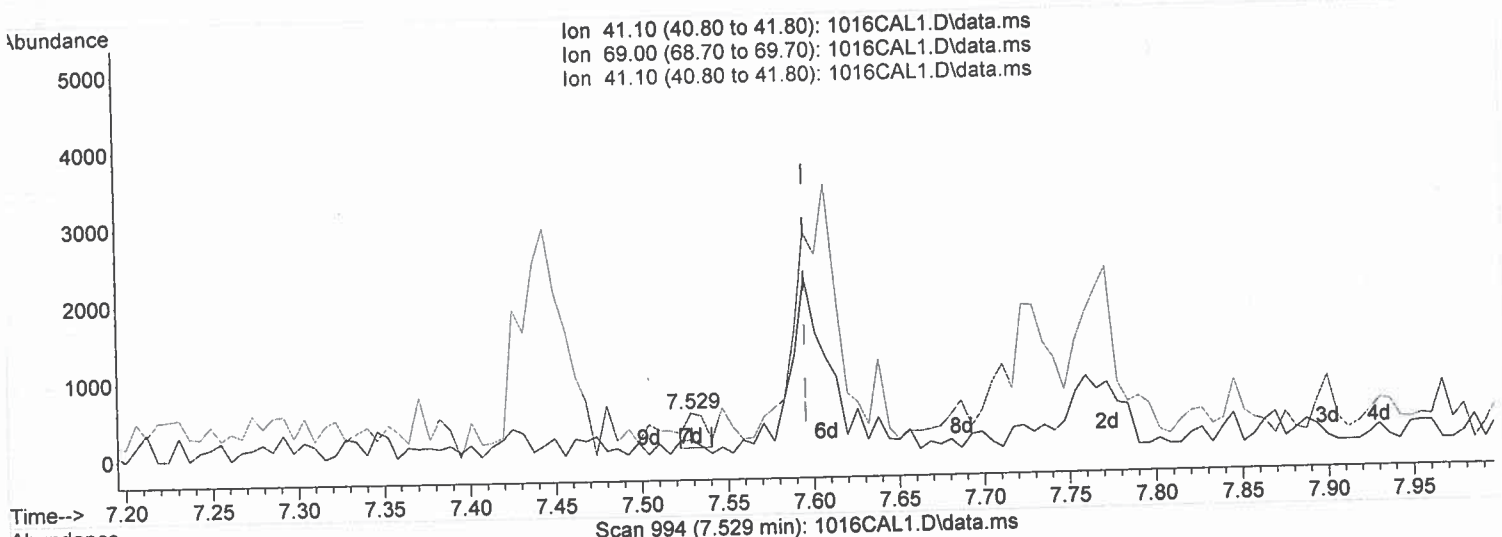
response 1753

Ion	Exp%	Act%
59.10	100	100
73.10	50.20	25.50#
43.10	43.20	25.67#
0.00	0.00	0.00

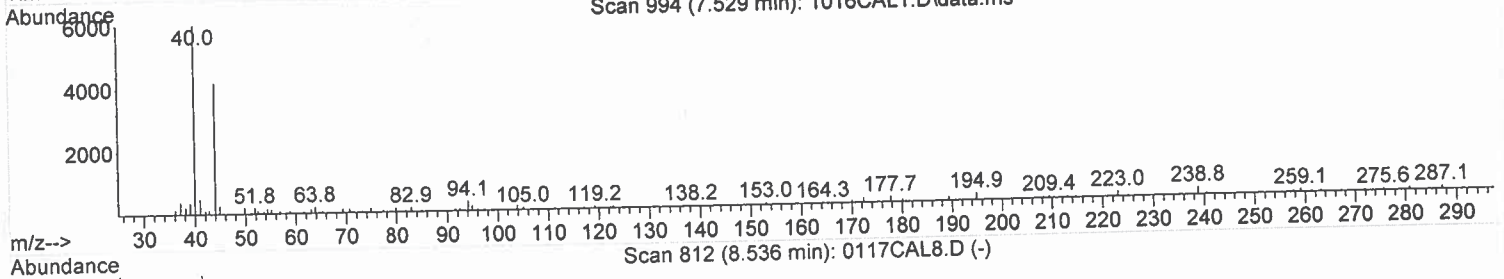
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

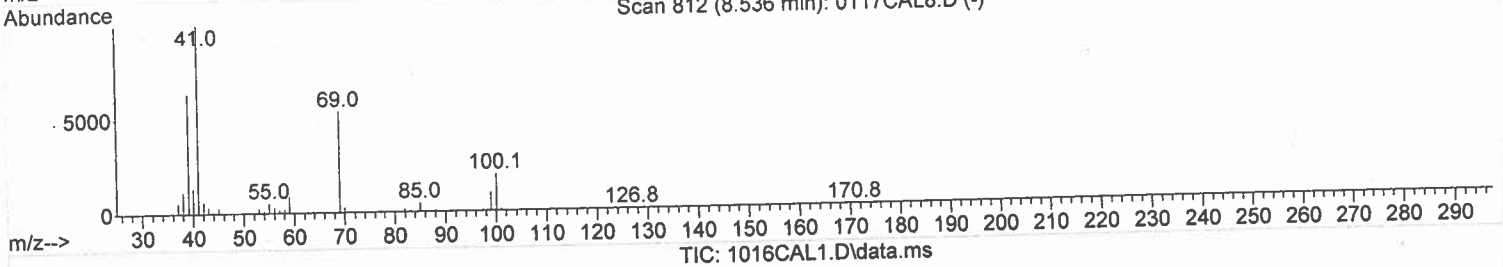
Quant Time: Oct 17 11:40:03 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



Scan 994 (7.529 min): 1016CAL1.D\data.ms



Scan 812 (8.536 min): 0117CAL8.D (-)



TIC: 1016CAL1.D\data.ms

(51) Methyl methacrylate (M)

7.529min (-0.067) 0.03 ug/L

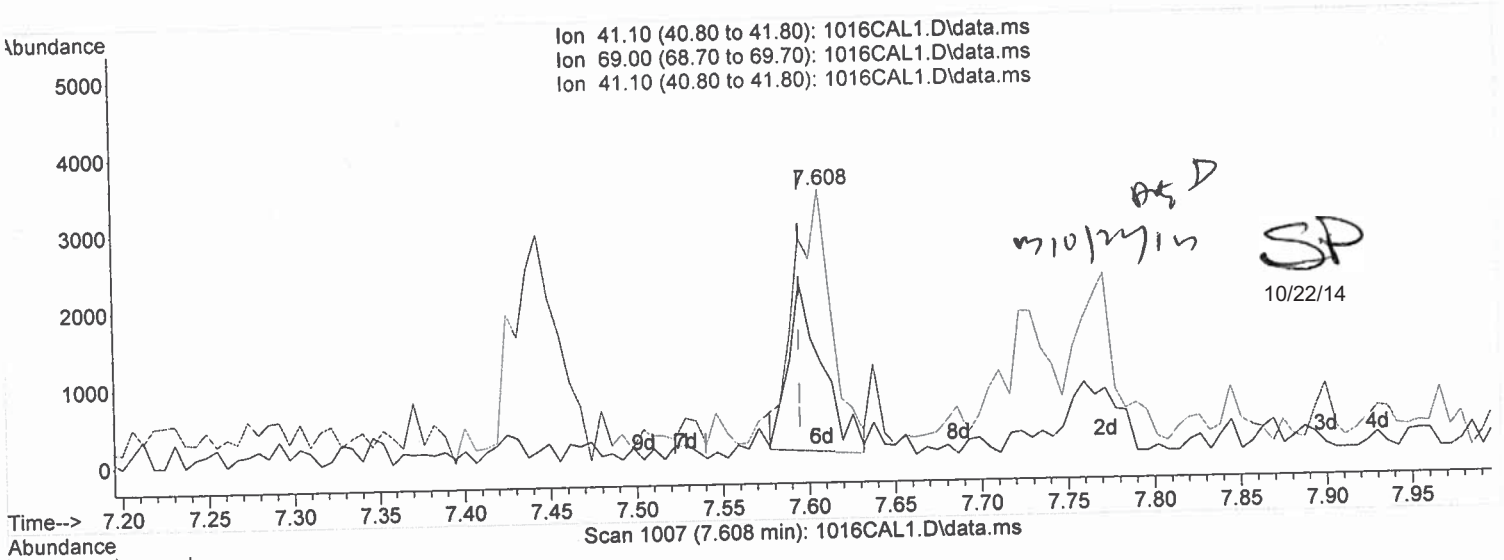
response 351

Ion	Exp%	Act%
41.10	100	100
69.00	52.30	58.97
41.10	100.00	100.00
0.00	0.00	0.00

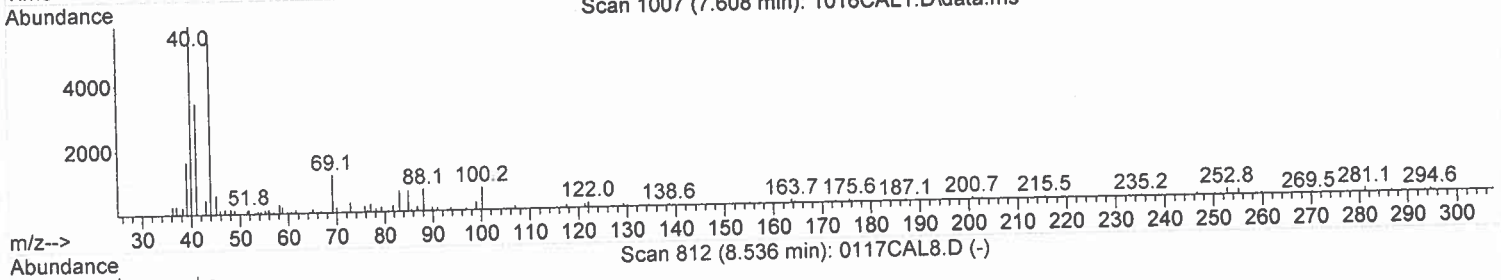
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

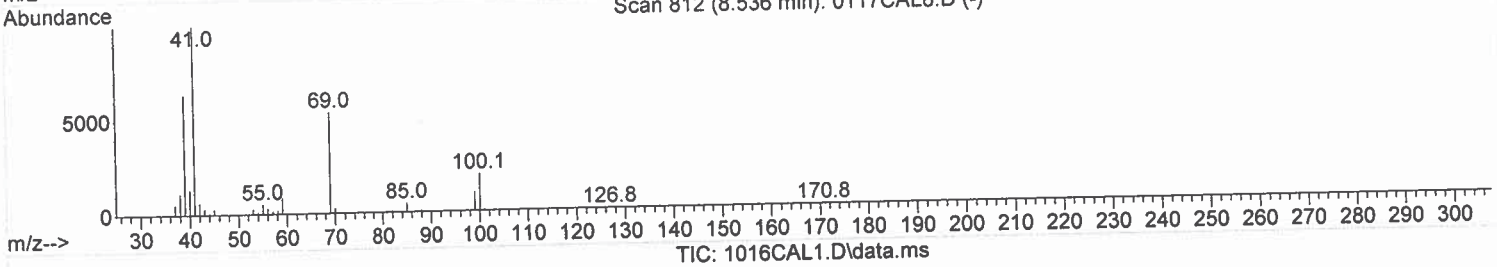
Quant Time: Oct 17 11:40:03 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



Scan 1007 (7.608 min): 1016CAL1.D\data.ms



Scan 812 (8.536 min): 0117CAL8.D (-)



TIC: 1016CAL1.D\data.ms

(51) Methyl methacrylate (M)

7.608min (+0.012) 0.41 ug/L m

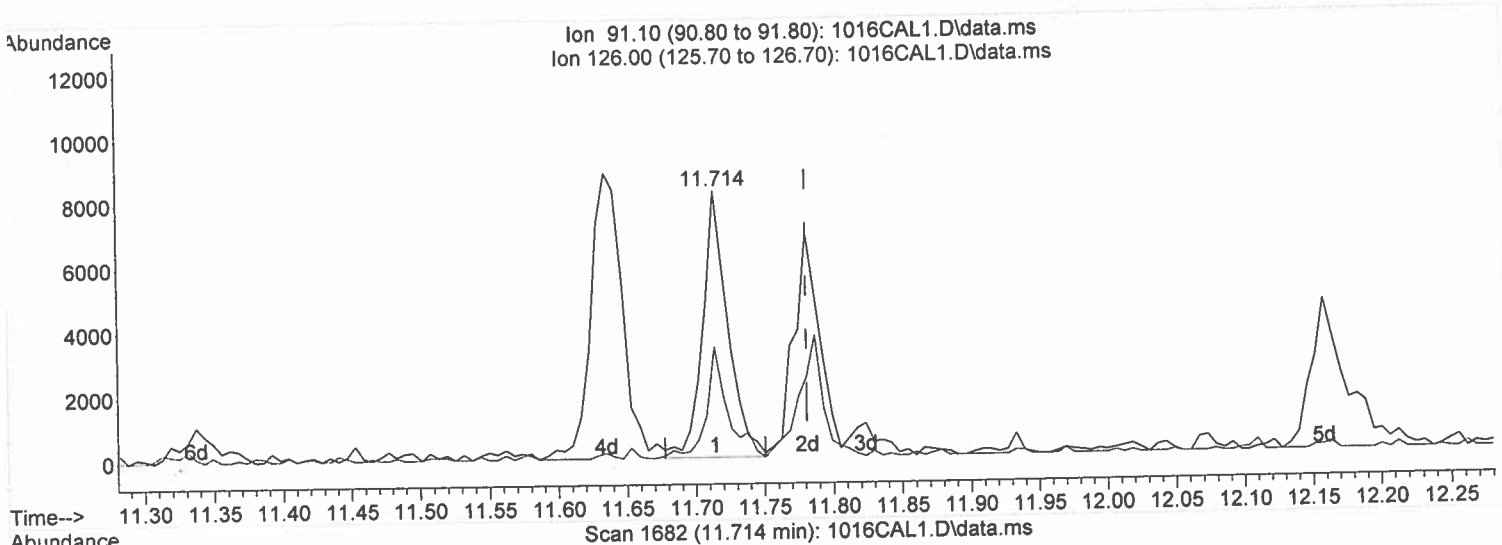
response 5178

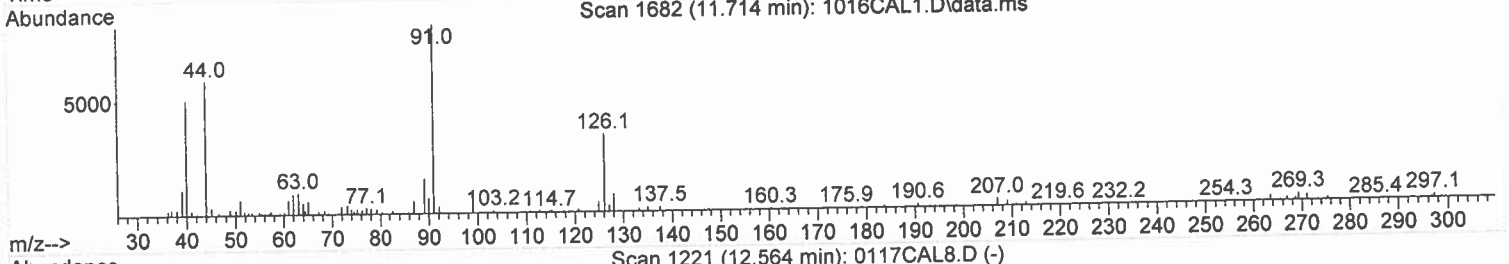
Ion	Exp%	Act%
41.10	100	100
69.00	52.30	4.00#
41.10	100.00	6.78#
0.00	0.00	0.00

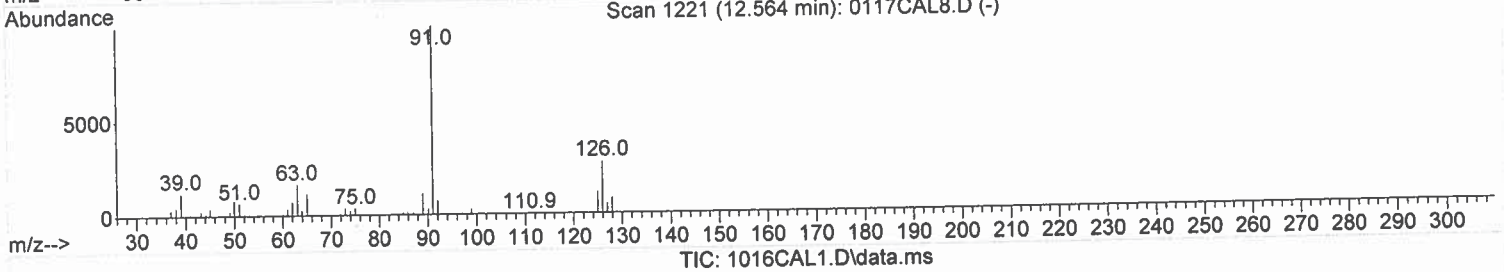
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:40:03 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration







TIC: 1016CAL1.D\data.ms

(88) 4-Chlorotoluene (M)

11.714min (-0.067) 0.44 ug/L

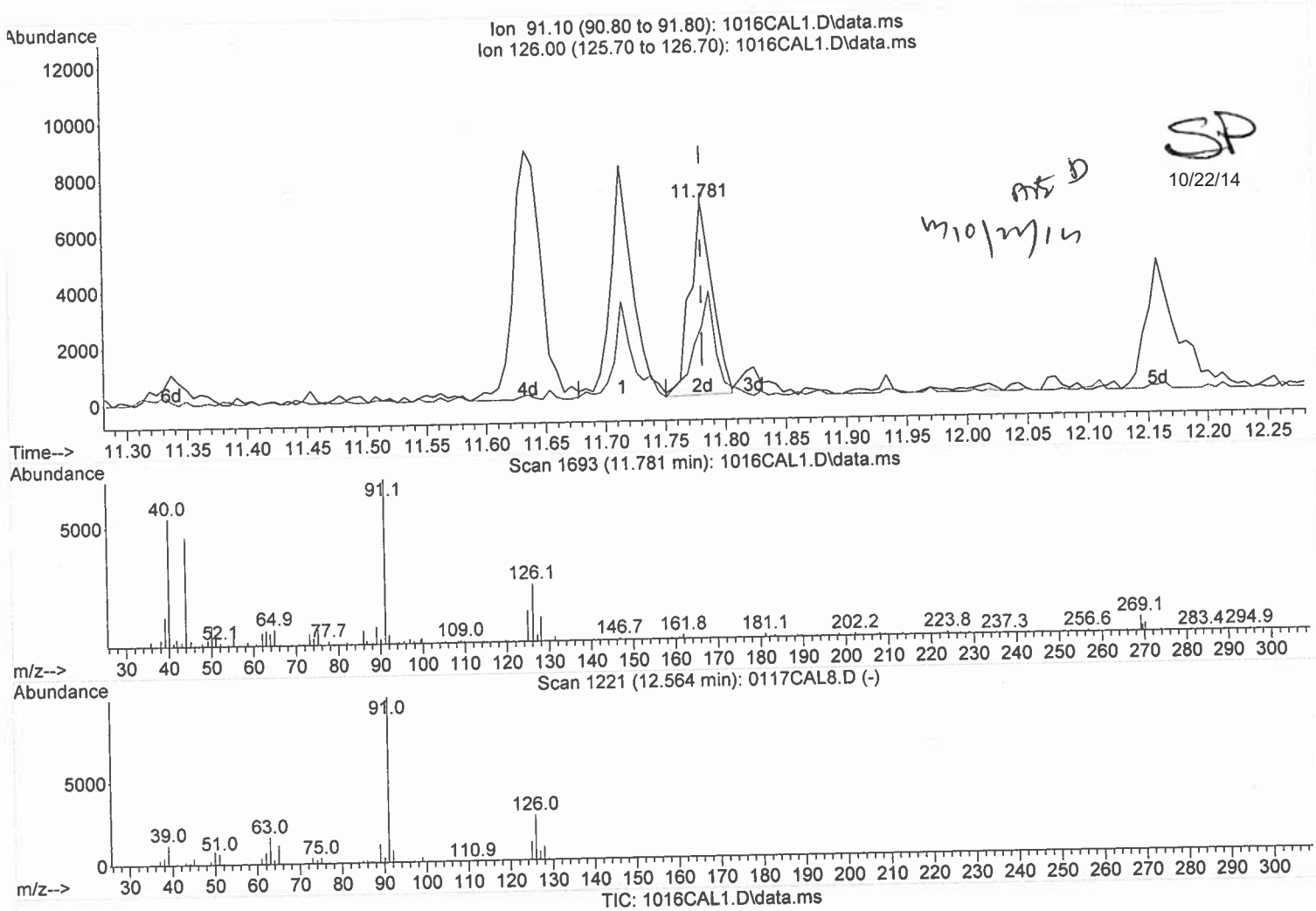
response 10550

Ion	Exp%	Act%
91.10	100	100
126.00	34.70	35.34
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:40:03 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



SP 10/22/14

(88) 4-Chlorotoluene (M)

11.781min (+0.000) 0.37 ug/L m

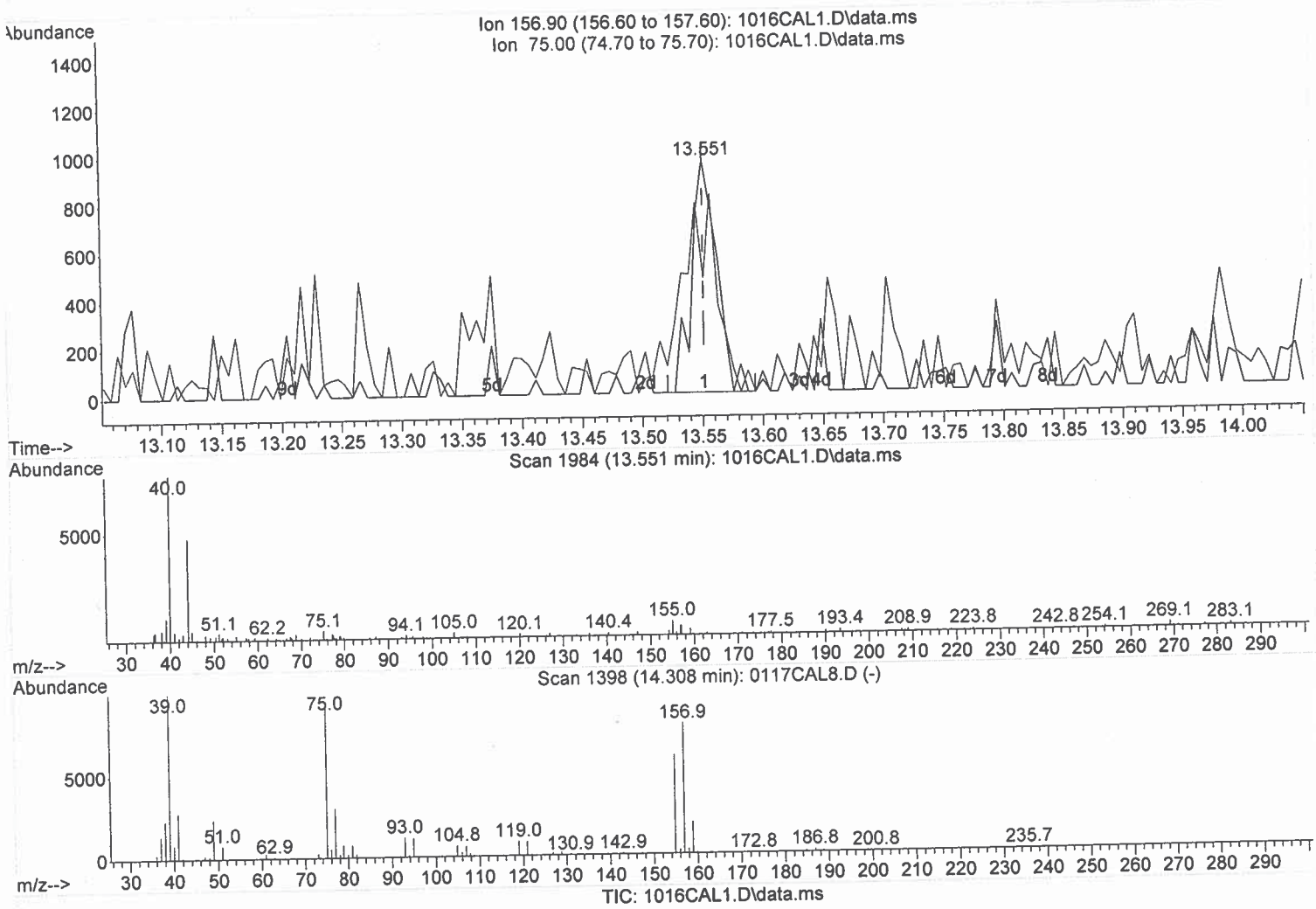
response 8845

Ion	Exp%	Act%
91.10	100	100
126.00	34.70	42.15#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 12:00:49 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



(98) 1,2-Dibromo-3-chloropropane (M)

13.551min (+0.000) 0.65 ug/L

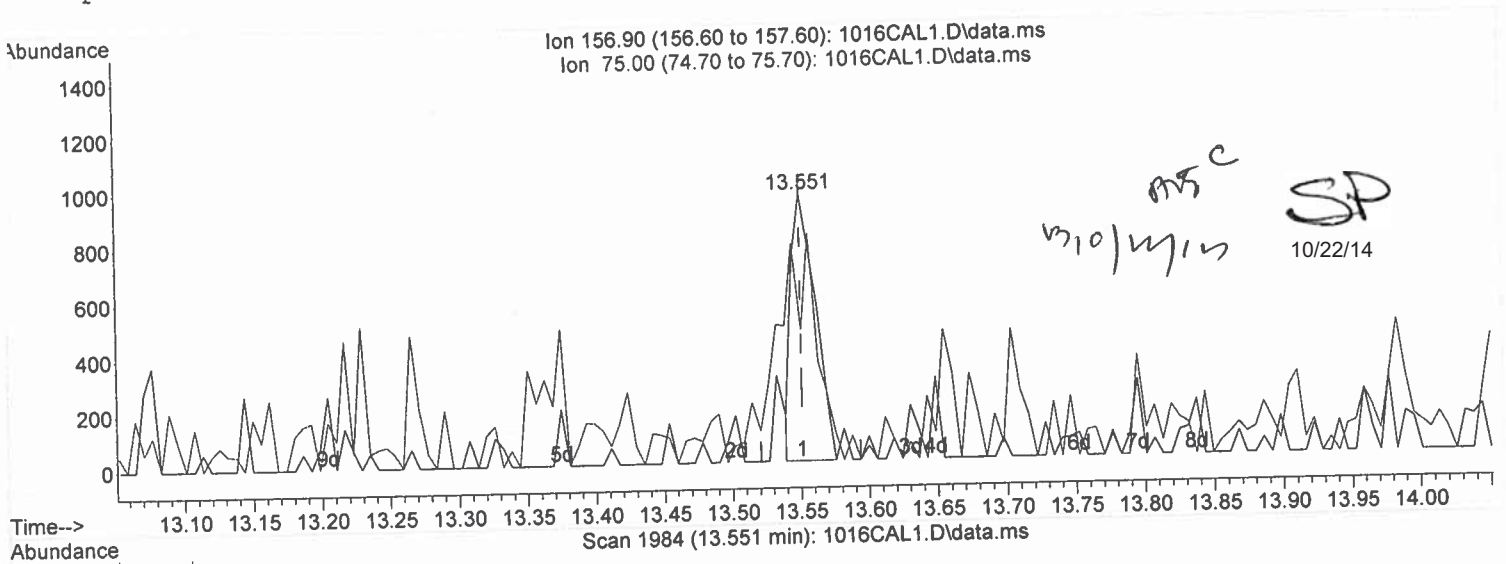
response 1399

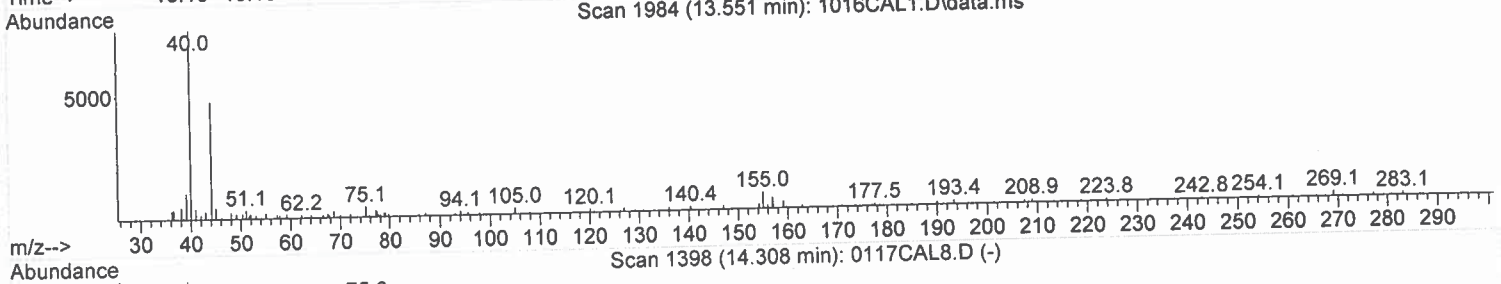
Ion	Exp%	Act%
156.90	100	100
75.00	94.20	117.58#
0.00	0.00	0.00
0.00	0.00	0.00

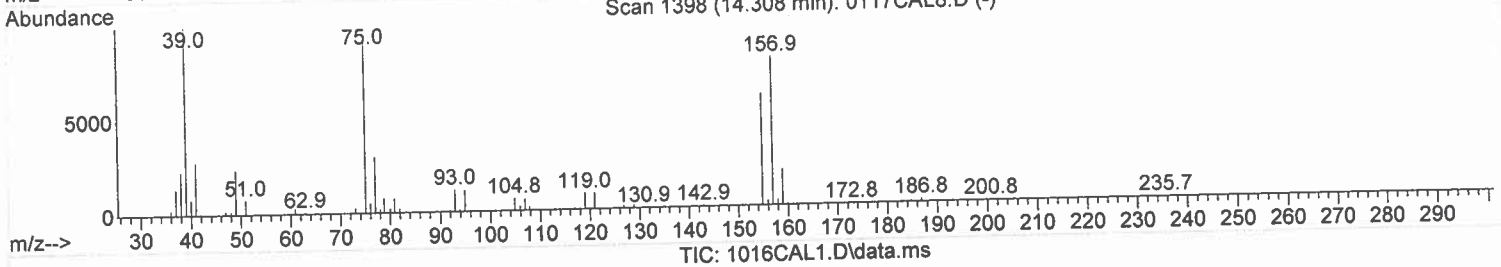
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 12:00:49 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration







TIC: 1016CAL1.D\data.ms

(98) 1,2-Dibromo-3-chloropropane (M)

13.551min (+0.000) 0.55 ug/L m

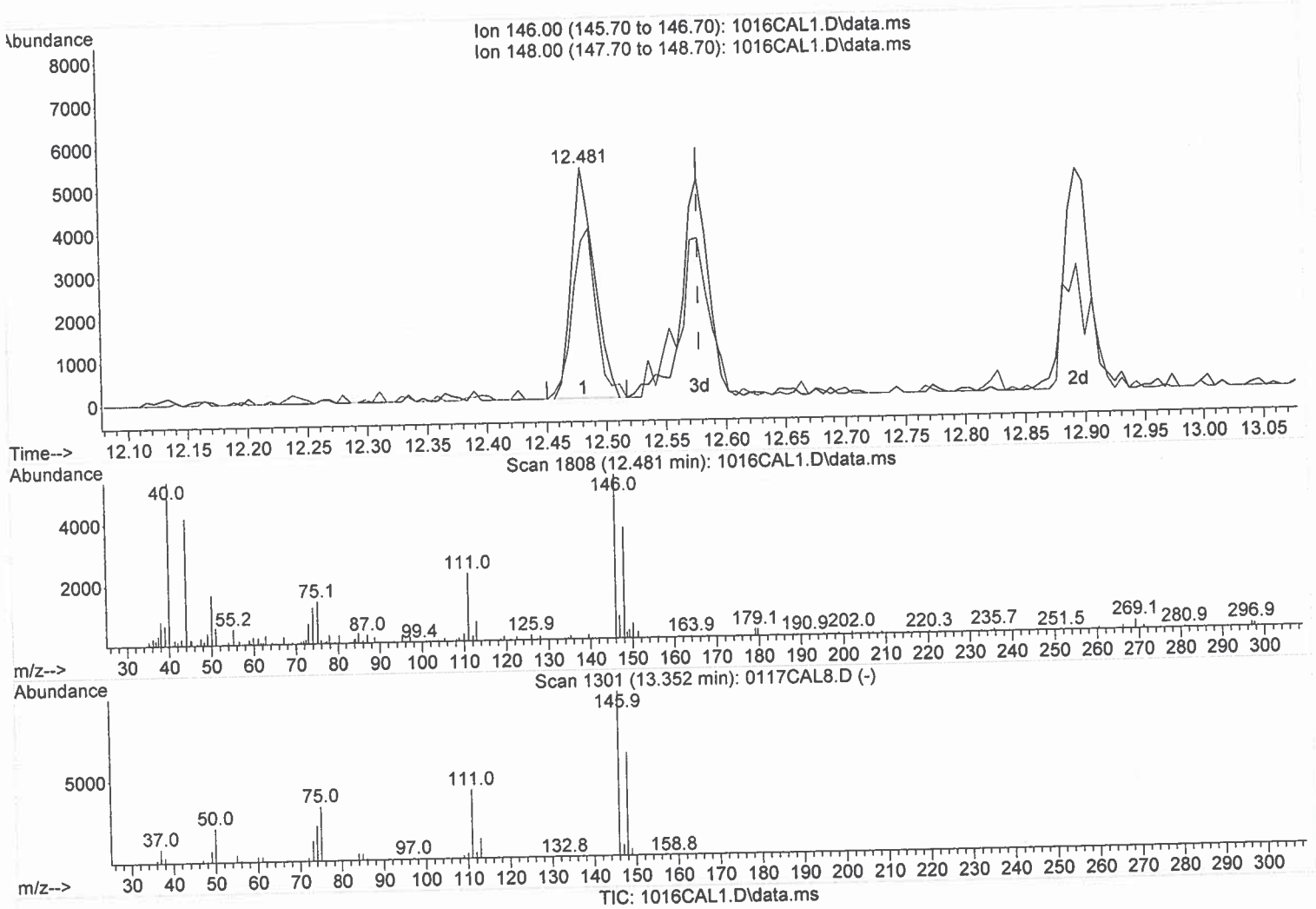
response 1184

Ion	Exp%	Act%
156.90	100	100
75.00	94.20	138.94#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:40:03 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



(94) 1,4-Dichlorobenzene (M)

12.481min (-0.097) 0.47 ug/L

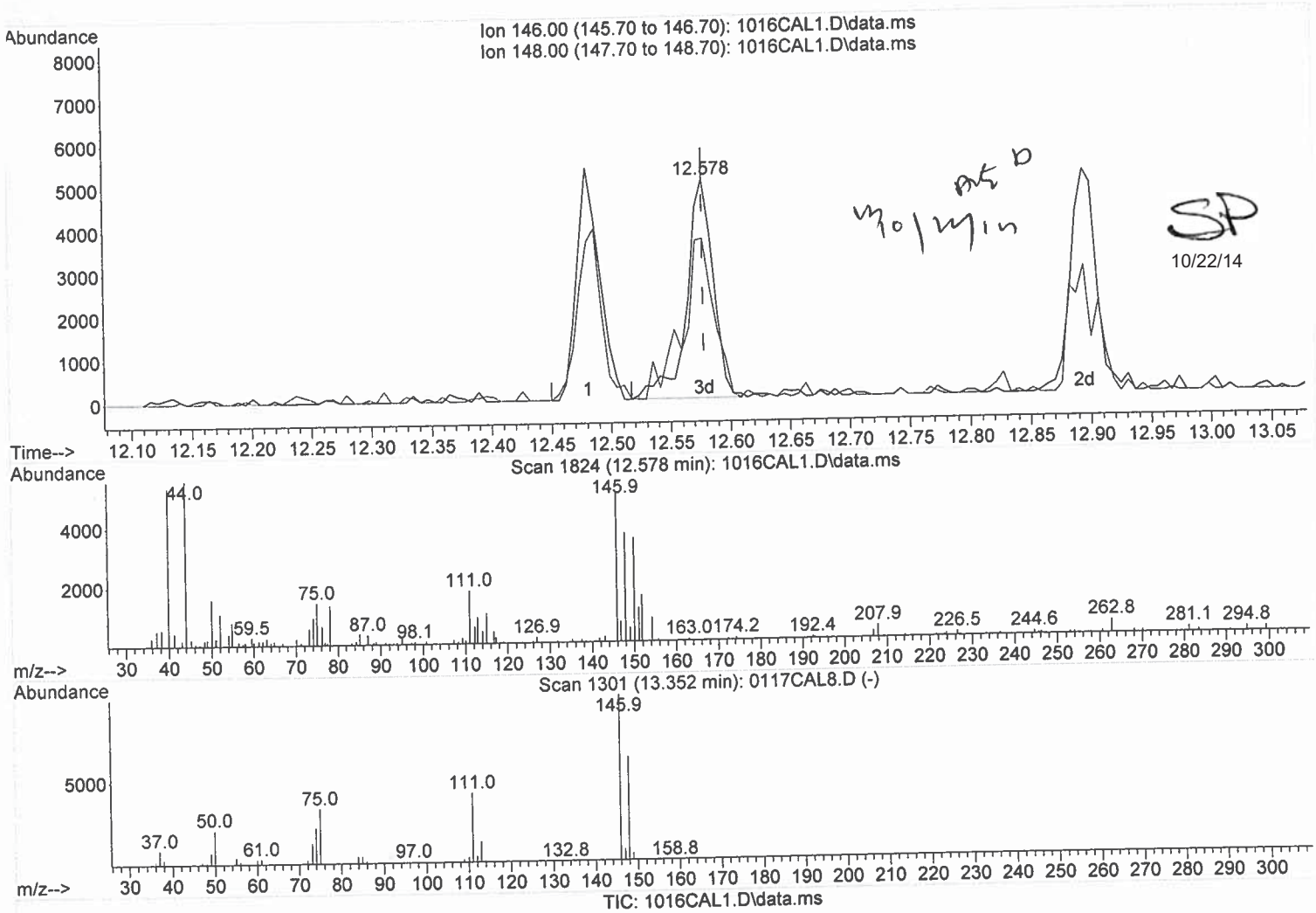
response 7200

Ion	Exp%	Act%
146.00	100	100
148.00	64.10	76.61
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:40:03 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



(94) 1,4-Dichlorobenzene (M)

12.578min (+0.000) 0.50 ug/L m

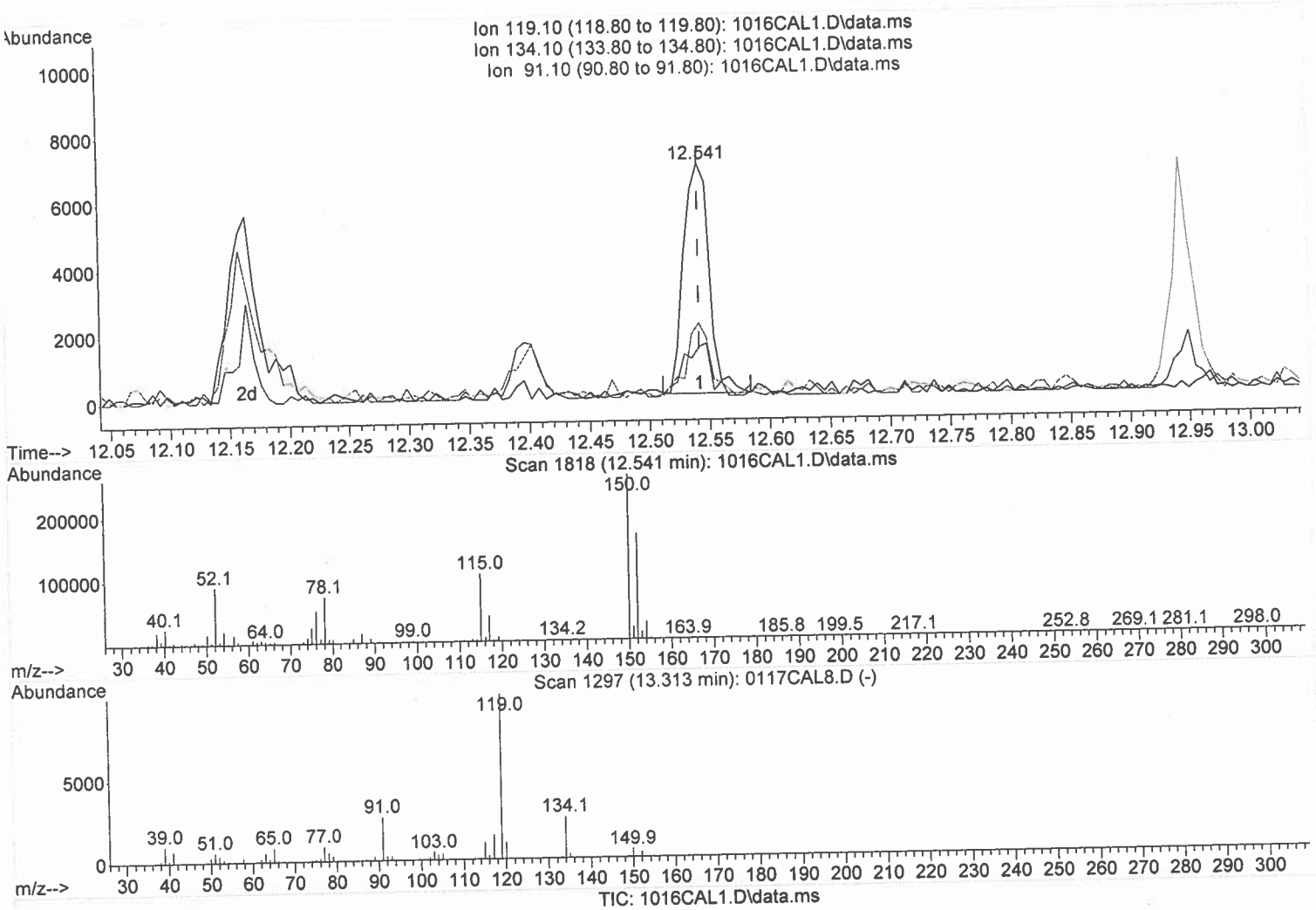
response 7781

Ion	Exp%	Act%
146.00	100	100
148.00	64.10	70.89
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:42:38 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



TIC: 1016CAL1.D\data.ms

(95) p-Isopropyltoluene (M)

12.541min (+0.000) 0.36 ug/L

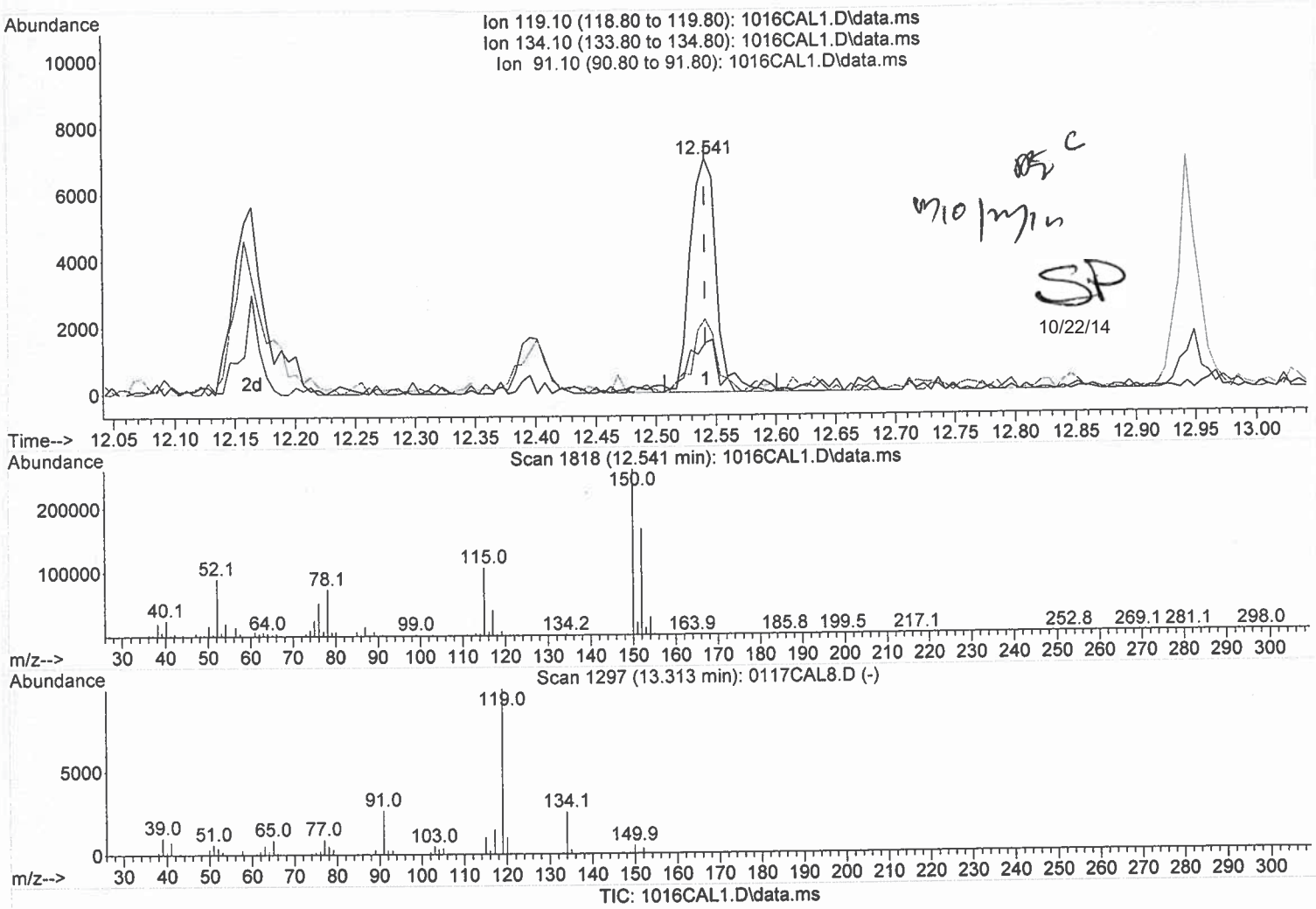
response 10133

Ion	Exp%	Act%
119.10	100	100
134.10	25.40	24.57
91.10	23.80	29.79#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL1.D
Acq On : 16 Oct 2014 1:21 pm
Operator :
Sample : SEQ-CAL1
Misc : 1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 17 11:46:17 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:39:52 2014
Response via : Initial Calibration



(95) p-Isopropyltoluene (M)

12.541min (+0.000) 0.43 ug/L m

response 11998

Ion	Exp%	Act%
119.10	100	100
134.10	25.40	20.75
91.10	23.80	25.16
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL2.D
Acq On : 16 Oct 2014 1:46 pm
Operator :
Sample : SEQ-CAL2
Misc : 1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 17 11:39:27 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:37:06 2014
Response via : Initial Calibration

10/10/14

SP 10/22/14

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorobenzene	6.865	96	853215	30.00 ug/L	0.00
59) Chlorobenzene-d5	10.114	82	345445	30.00 ug/L	0.00
81) 1,4-Dichlorobenzene-d4	12.547	152	308352	30.00 ug/L	# 0.00
System Monitoring Compounds					
37) Dibromofluoromethane	5.789	111	278397	36.43 ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 121.43%#		
41) 1,2-Dichloroethane-d4	6.318	102	67452	36.33 ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 121.10%#		
60) Toluene-d8	8.636	98	940580	34.03 ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 113.43%		
80) Bromofluorobenzene	11.337	95	341005	32.84 ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 109.47%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.536	85	8641	1.1313 ug/L	93
3) Chloromethane	1.694	50	16393	1.3432 ug/L	89
4) Vinyl chloride	1.798	62	8114	1.1266 ug/L #	66
5) Bromomethane	2.132	94	6809	1.5759 ug/L	97
6) Chloroethane	2.218	64	8393m	1.6475 ug/L	
7) Trichlorofluoromethane	2.576	101	11888	1.0976 ug/L	100
8) Acrolein	2.716	56	10935	5.6415 ug/L	95
9) Acetone	2.795	43	12201	2.3488 ug/L	97
10) Acetonitrile	2.850	41	23014	10.2576 ug/L	90
11) Ethyl Ether	2.875	59	7933	0.9986 ug/L	86
12) 1,1-Dichloroethene	3.148	96	7212	1.0358 ug/L	94
13) Trichlorotrifluoroethane	3.185	101	7406	1.0612 ug/L	90
14) Iodomethane	3.300	142	4012	0.5755 ug/L #	79
15) t-Butyl Alcohol	3.233	59	5952	4.7801 ug/L #	66
16) Methyl Acetate	3.404	43	13697	1.0114 ug/L	97
17) Acrylonitrile	3.434	53	29439	5.3927 ug/L	96
18) Allyl chloride	3.501	76	4307	1.0912 ug/L	91
19) Methylene chloride	3.532	84	14793	1.6466 ug/L	97
20) Carbon disulfide	3.605	76	22461	1.0747 ug/L #	90
21) trans-1,2-dichloroethene	4.195	96	9069	1.2356 ug/L	83
22) MTBE	4.170	73	25489	1.0309 ug/L #	83
23) 1,1-Dichloroethane	4.584	63	17362	1.0439 ug/L #	87
24) Vinyl acetate	4.657	43	47671	1.8248 ug/L	100
25) Propionitrile	4.779	54	20867	9.9451 ug/L #	90
26) Hexane	4.779	57	6840	0.8118 ug/L #	63
27) Chloroprene	4.864	53	15219	0.9837 ug/L	92
28) Di-isopropyl ether	4.955	45	39136	0.9959 ug/L	97
29) 2-Butanone	5.065	43	14886	1.9062 ug/L #	80
30) Methacrylonitrile	5.241	41	94895	10.2044 ug/L	98
31) cis-1,2-Dichloroethene	5.326	96	8745	1.0599 ug/L	98
32) 2,2-Dichloropropane	5.442	77	11640	1.0216 ug/L #	80
33) ETBE	5.448	59	28523	0.9510 ug/L #	88
34) Chloroform	5.606	83	18754	1.2487 ug/L	99
35) Bromochloromethane	5.636	128	5238	1.1621 ug/L	87
36) Isobutyl alcohol	5.697	42	6615	17.4703 ug/L	94
38) Tetrahydrofuran	5.831	72	1832m	1.3315 ug/L	

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL2.D
Acq On : 16 Oct 2014 1:46 pm
Operator :
Sample : SEQ-CAL2
Misc : 1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 17 11:39:27 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:37:06 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
39) tert-Amyl alcohol	5.989	59	4458	4.7865 ug/L		93
40) 1,1,1-Trichloroethane	6.190	97	13250	1.0848 ug/L		90
42) 1,2-Dichloroethane	6.415	62	14915	1.0339 ug/L	#	89
43) 1,1-Dichloropropene	6.415	75	10804	1.0490 ug/L	#	88
44) Cyclohexane	6.470	56	12794	0.7804 ug/L		85
45) Carbon tetrachloride	6.537	117	8937	0.8869 ug/L		95
46) Benzene	6.579	78	32963	1.0357 ug/L		96
47) tert- Amyl Methyl Ether	6.786	73	21298	0.9217 ug/L	#	95
48) Trichloroethene	7.389	95	9661	1.1864 ug/L		92
49) 1,2-Dichloropropane	7.443	63	10808	1.0945 ug/L		96
50) Dibromomethane	7.565	93	6727	1.1257 ug/L		94
51) Methyl methacrylate	7.595	41	11411m	0.8995 ug/L		
52) 1,4-Dioxane	7.620	88	2955	22.4186 ug/L		87
53) Bromodichloromethane	7.626	83	12073	1.0467 ug/L		100
54) tert- Amyl Ethyl Ether	7.729	59	20776	0.8883 ug/L		90
55) Methyl cyclohexane	7.772	83	10005	0.8398 ug/L	#	83
56) 2-Chloroethyl vinyl ether	8.021	63	10529	1.7189 ug/L		96
57) 4-Methyl-2-pentanone	8.161	43	26788	1.8284 ug/L	#	86
58) cis-1,3-Dichloropropene	8.234	75	11273	0.9354 ug/L		97
61) trans-1,3-Dichloropropene	8.739	75	10811	0.8727 ug/L	#	78
62) Toluene	8.721	92	20014	1.0069 ug/L		98
63) 1,1,2-Trichloroethane	8.891	83	7080	0.9917 ug/L		94
64) Ethyl methacrylate	8.940	69	10988	0.9469 ug/L		82
65) 2-Hexanone	9.062	43	17074	1.6865 ug/L	#	91
66) 1,3-Dichloropropane	9.110	76	14644	1.0506 ug/L		96
67) Dibromochloromethane	9.366	129	8200	0.9568 ug/L		96
68) Tetrachloroethene	9.469	166	7581	0.9390 ug/L		98
69) 1,2-Dibromoethane	9.585	107	8956	1.0488 ug/L		94
70) 1-Chlorohexane	10.126	91	7286	0.7944 ug/L	#	3
71) Chlorobenzene	10.150	112	21414	0.9662 ug/L		96
72) 1,1,1,2-Tetrachloroethane	10.193	131	7298	0.9265 ug/L	#	1
73) Ethylbenzene	10.303	91	30605	0.8716 ug/L		94
74) m,p-Xylene	10.418	91	50836	1.8099 ug/L		96
75) Styrene	10.795	104	17291	0.7813 ug/L		95
76) o-Xylene	10.814	91	26698	0.8726 ug/L		94
77) Bromoform	10.887	173	4646	0.8444 ug/L		90
78) Isopropylbenzene	11.221	105	26046	0.8073 ug/L		94
79) 1,2,3-Trichloropropane	11.282	110	4631	1.2104 ug/L	#	57
82) cis-1,4-Dichloro-2-butene	10.996	53	3016	0.8210 ug/L		94
83) 1,1,2,2-Tetrachloroethane	11.160	83	11277	1.0691 ug/L		96
84) trans-1,4-Dichloro-2-b...	11.319	53	4295	1.1849 ug/L	#	1
85) Bromobenzene	11.489	156	9462	1.0302 ug/L		97
86) n-Propylbenzene	11.635	91	32916	0.8722 ug/L		98
87) 2-Chlorotoluene	11.714	91	23952	0.9631 ug/L		99
88) 4-Chlorotoluene	11.781	91	22418	0.9088 ug/L		98
89) 1,3,5-Trimethylbenzene	11.823	105	22035	0.7638 ug/L		91
90) tert-Butylbenzene	12.158	119	25269	0.8783 ug/L		98
91) 1,2,4-Trimethylbenzene	12.195	105	23679	0.7833 ug/L		97
92) sec-Butylbenzene	12.395	105	28206	0.8216 ug/L		99
93) 1,3-Dichlorobenzene	12.487	146	15651	0.9906 ug/L		99
94) 1,4-Dichlorobenzene	12.578	146	16393	1.0350 ug/L		96
95) p-Isopropyltoluene	12.541	119	22926	0.7668 ug/L	#	86

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL2.D
Acq On : 16 Oct 2014 1:46 pm
Operator :
Sample : SEQ-CAL2
Misc : 1
ALS Vial : 5 Sample Multiplier: 1

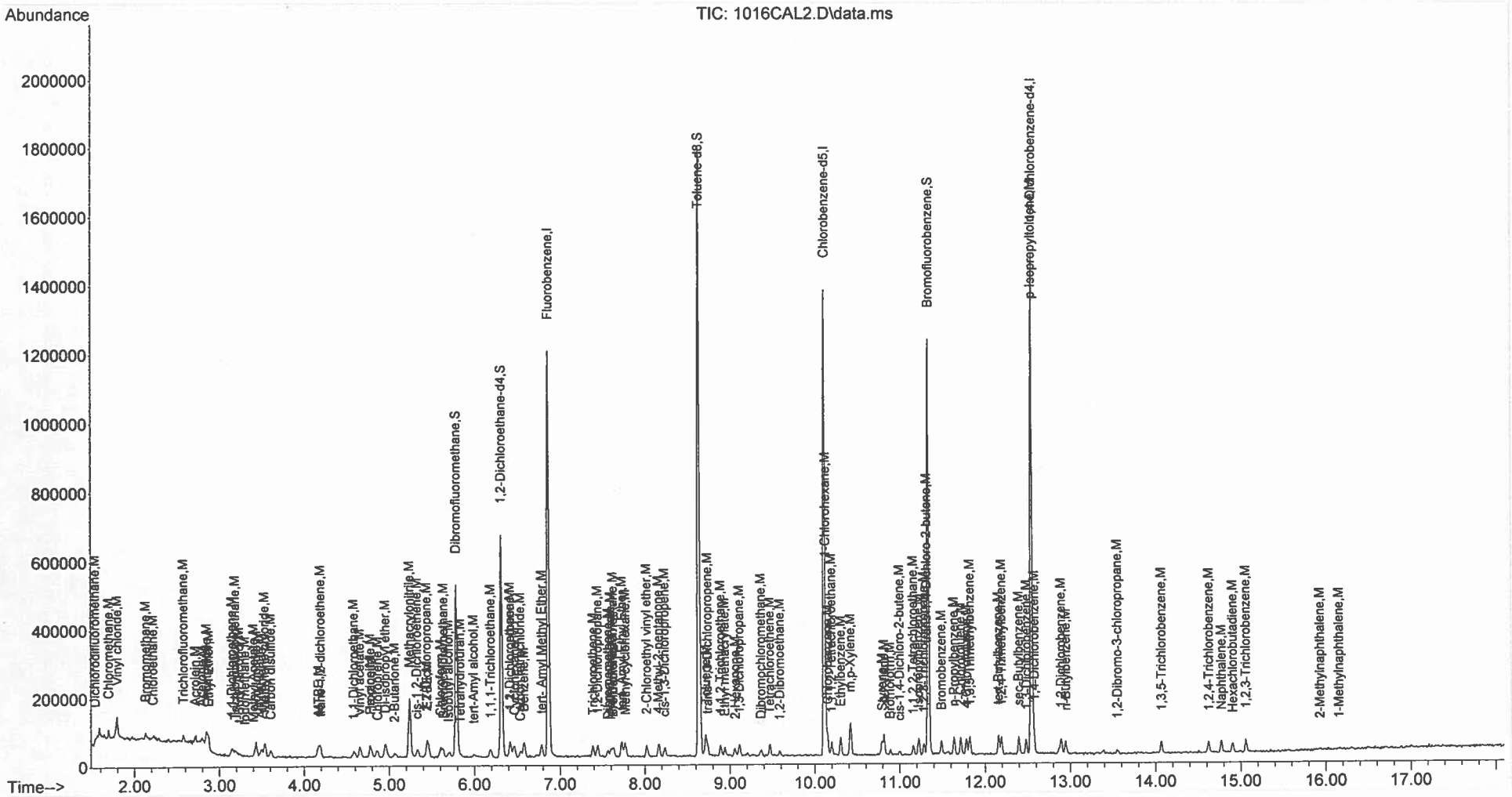
Quant Time: Oct 17 11:39:27 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:37:06 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
96) 1,2-Dichlorobenzene	12.894	146	15540	0.9532 ug/L	95
97) n-Butylbenzene	12.949	91	19117	0.7699 ug/L	89
98) 1,2-Dibromo-3-chloropr...	13.551	157	1701m	0.7417 ug/L	
99) 1,3,5-Trichlorobenzene	14.068	180	9358	0.8204 ug/L	98
100) 1,2,4-Trichlorobenzene	14.628	180	7896	0.7703 ug/L	97
101) Naphthalene	14.774	128	24352	0.7542 ug/L	100
102) Hexachlorobutadiene	14.908	225	3654	0.7425 ug/L #	68
103) 1,2,3-Trichlorobenzene	15.060	180	9531	0.8831 ug/L	92
104) 2-Methylnaphthalene	15.930	142	1538	0.0662 ug/L	90
105) 1-Methylnaphthalene	16.155	142	2006	0.0849 ug/L	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL2.D
Acq On : 16 Oct 2014 1:46 pm
Operator :
Sample : SEQ-CAL2
Misc : 1
ALS Vial : 5 Sample Multiplier: 1

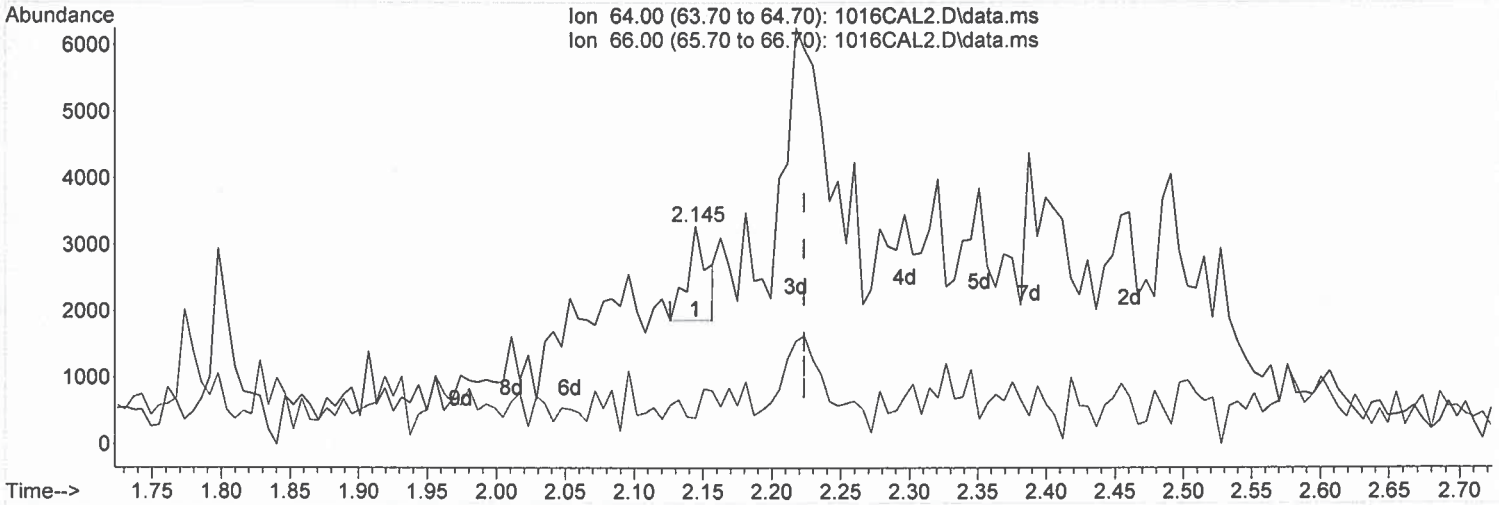
Quant Time: Oct 17 11:39:27 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:37:06 2014
Response via : Initial Calibration

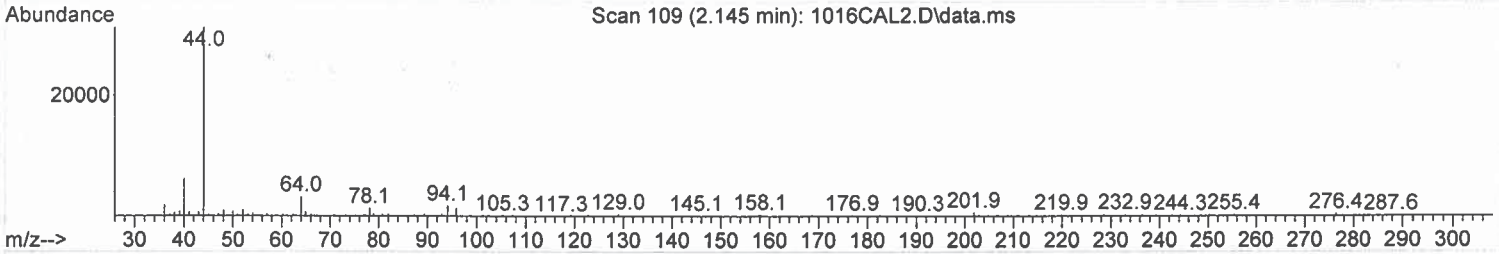


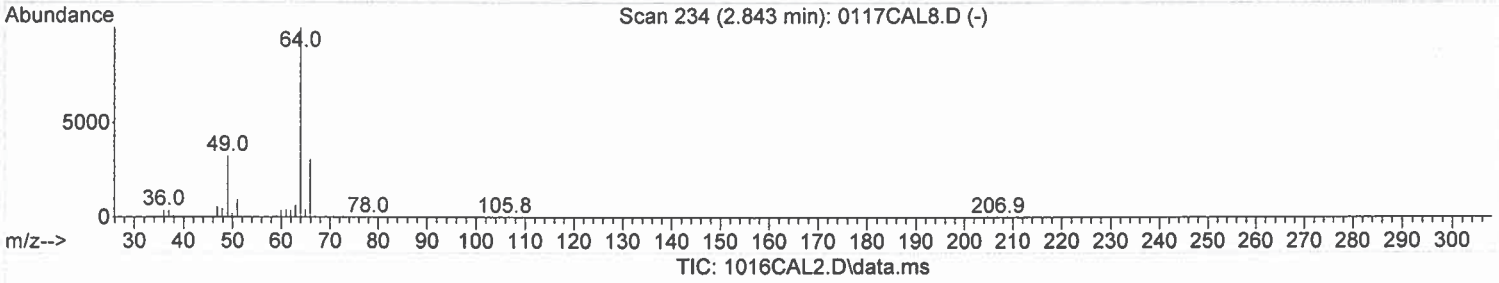
101614W3.M Tue Oct 21 13:09:37 2014

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL2.D
Acq On : 16 Oct 2014 1:46 pm
Operator :
Sample : SEQ-CAL2
Misc : 1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 17 11:37:17 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:37:06 2014
Response via : Initial Calibration







TIC: 1016CAL2.D\data.ms

(6) Chloroethane (M)

2.145min (-0.079) 0.29 ug/L

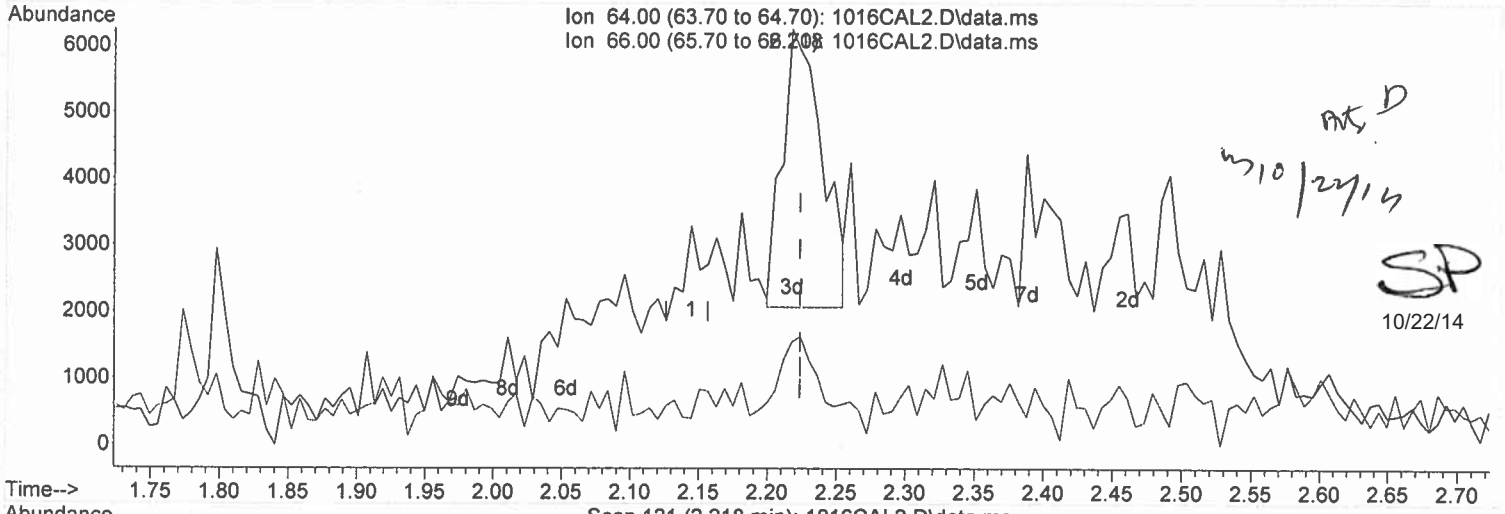
response 1453

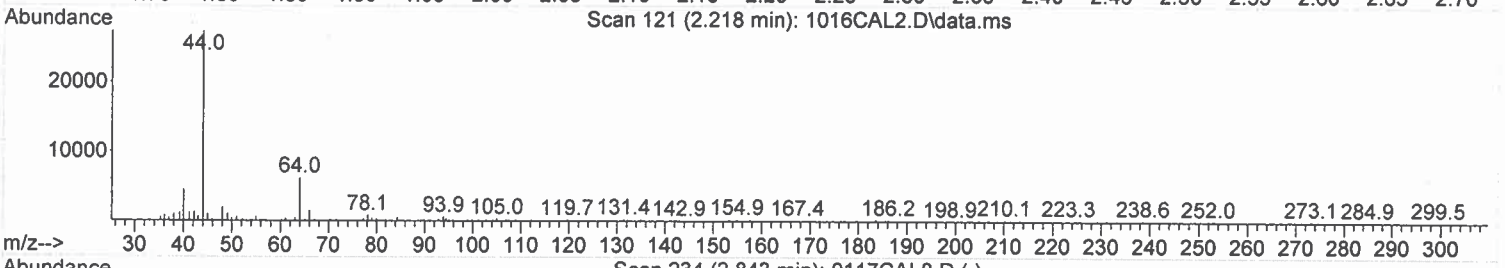
Ion	Exp%	Act%
64.00	100	100
66.00	30.70	25.46
0.00	0.00	0.00
0.00	0.00	0.00

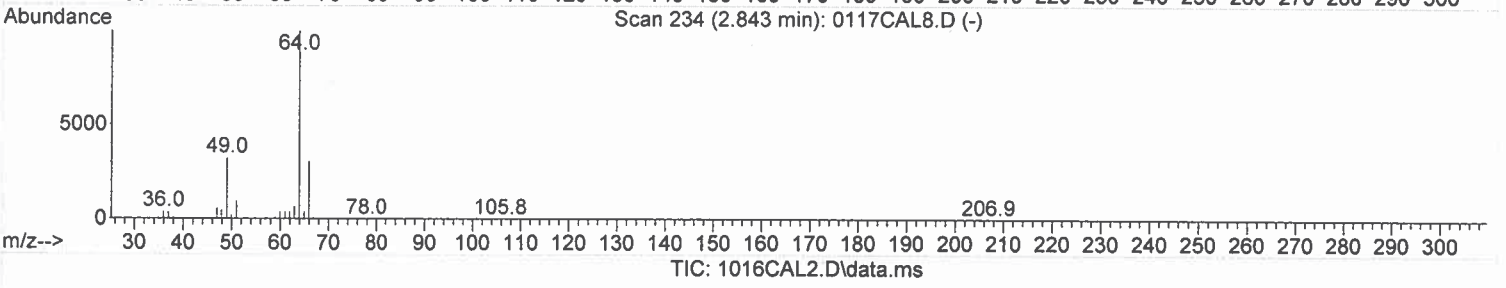
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL2.D
Acq On : 16 Oct 2014 1:46 pm
Operator :
Sample : SEQ-CAL2
Misc : 1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 17 11:37:17 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:37:06 2014
Response via : Initial Calibration







TIC: 1016CAL2.D\data.ms

(6) Chloroethane (M)

2.218min (-0.006) 1.65 ug/L m

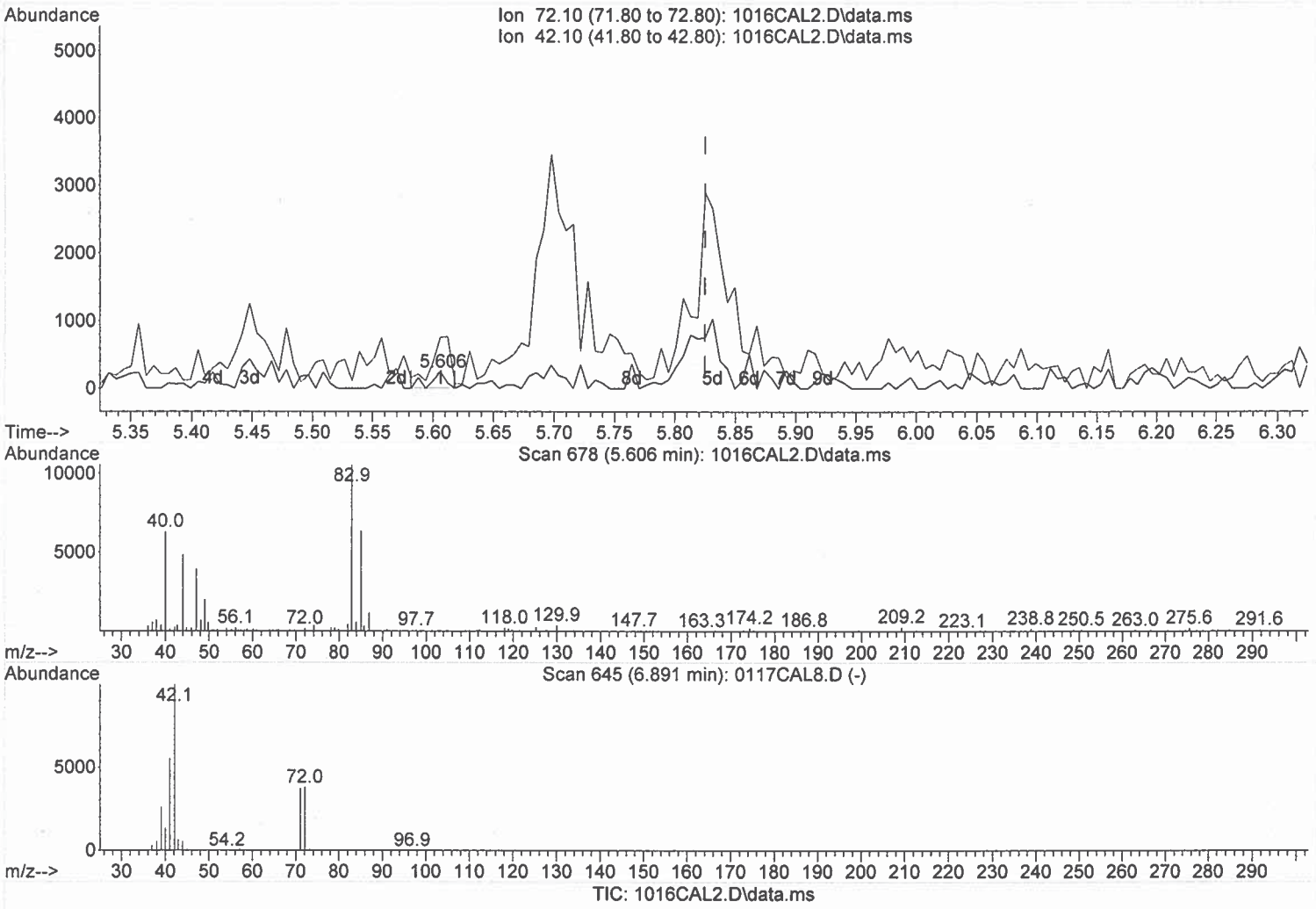
response 8393

Ion	Exp%	Act%
64.00	100	100
66.00	30.70	4.41#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL2.D
Acq On : 16 Oct 2014 1:46 pm
Operator :
Sample : SEQ-CAL2
Misc : 1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 17 11:37:17 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:37:06 2014
Response via : Initial Calibration



TIC: 1016CAL2.D\data.ms

(38) Tetrahydrofuran (M)

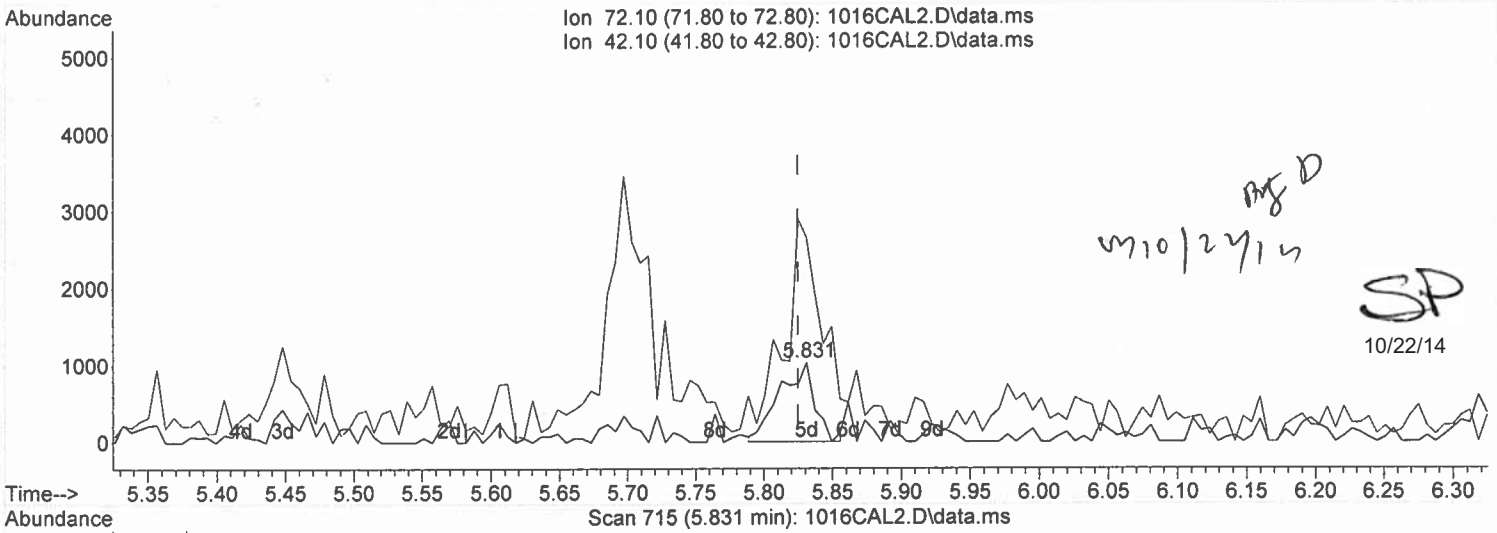
5.606min (-0.219) 0.15 ug/L

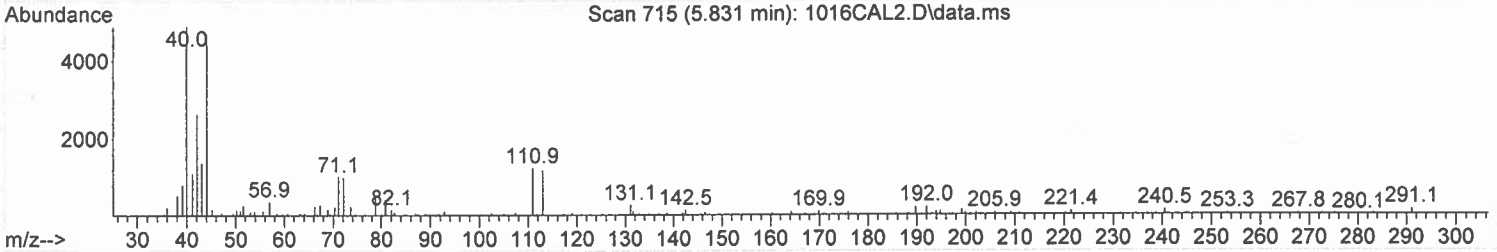
response 212

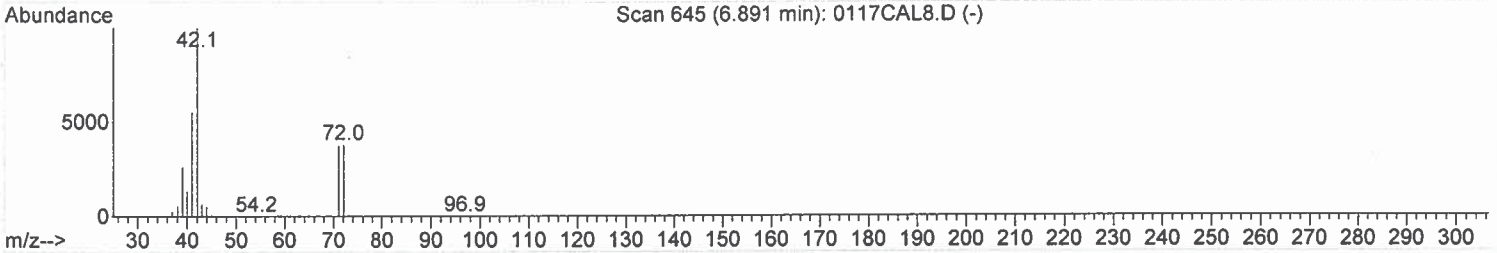
Ion	Exp%	Act%
72.10	100	100
42.10	360.60	294.34
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL2.D
Acq On : 16 Oct 2014 1:46 pm
Operator :
Sample : SEQ-CAL2
Misc : 1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 17 11:37:17 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:37:06 2014
Response via : Initial Calibration







TIC: 1016CAL2.D\data.ms

(38) Tetrahydrofuran (M)

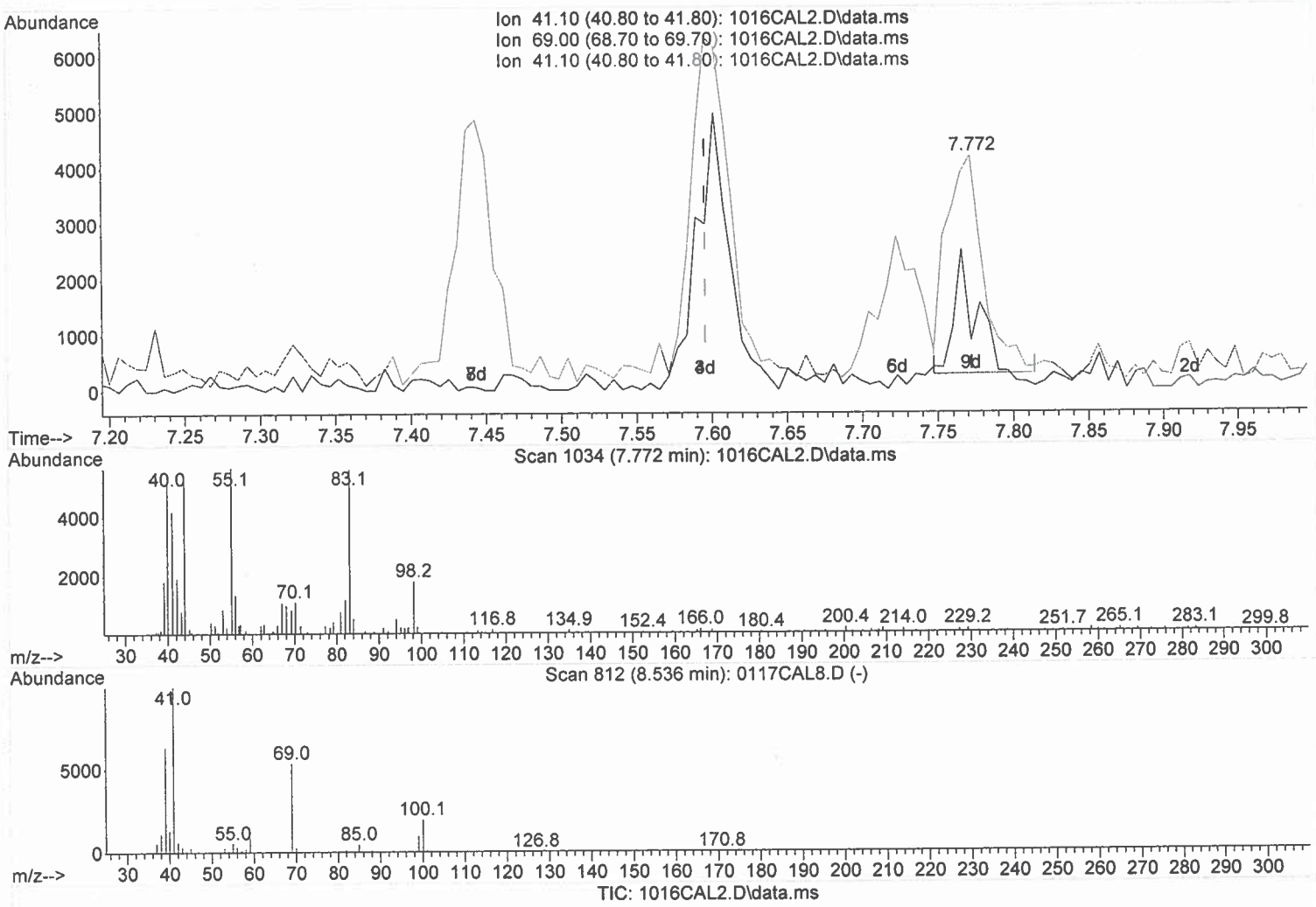
5.831min (+0.006) 1.33 ug/L m

response 1832

Ion	Exp%	Act%
72.10	100	100
42.10	360.60	34.06#
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL2.D
Acq On : 16 Oct 2014 1:46 pm
Operator :
Sample : SEQ-CAL2
Misc : 1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 17 11:37:17 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:37:06 2014
Response via : Initial Calibration



(51) Methyl methacrylate (M)

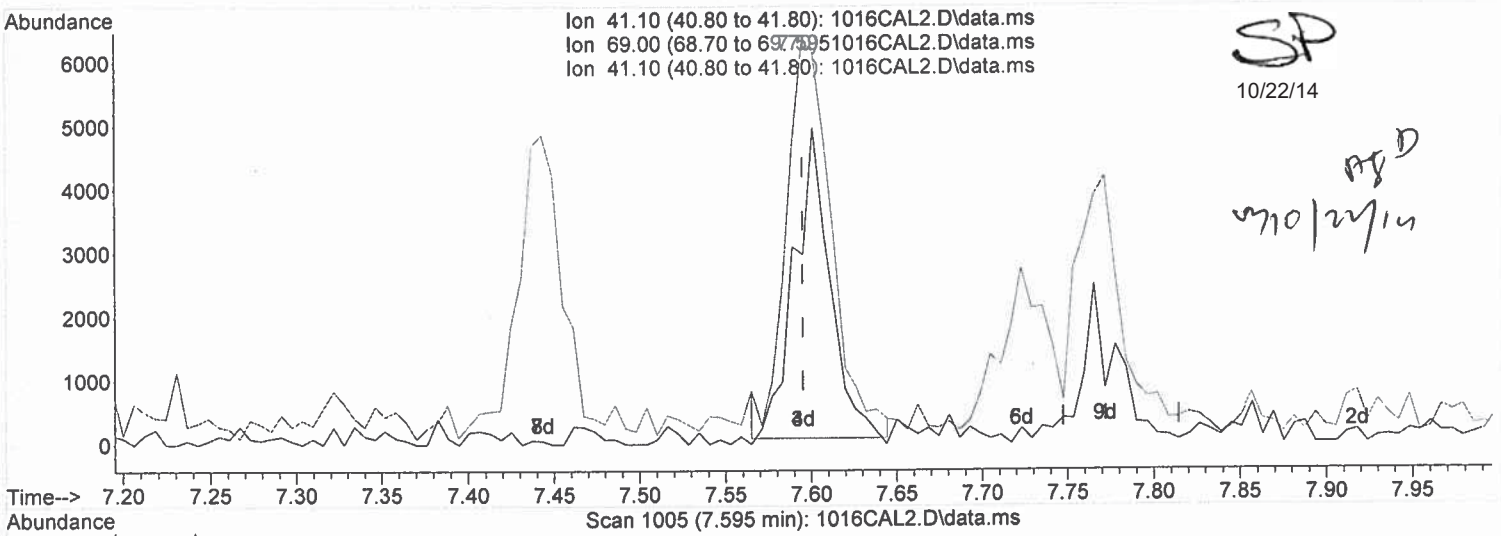
7.772min (+0.177) 0.52 ug/L

response 6656

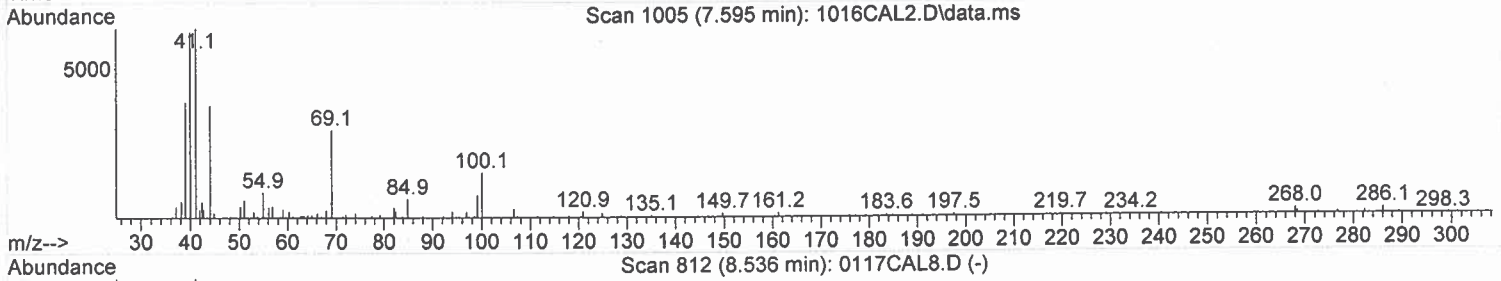
Ion	Exp%	Act%
41.10	100	100
69.00	52.30	53.03
41.10	100.00	100.00
0.00	0.00	0.00

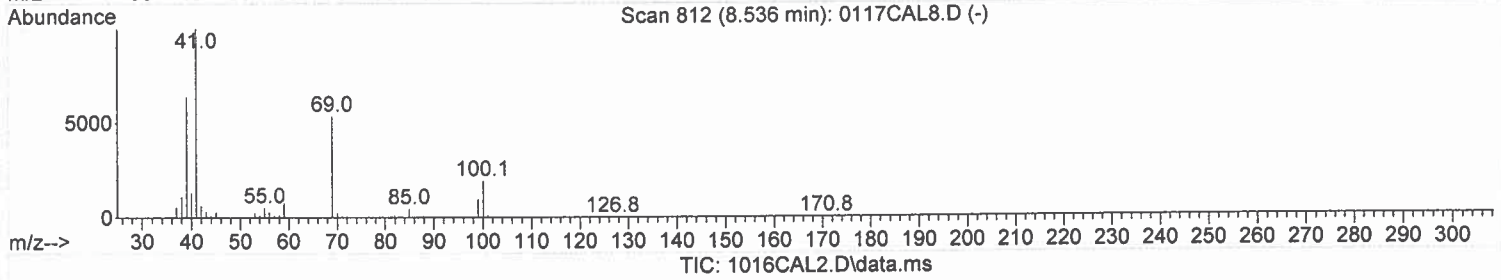
Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL2.D
Acq On : 16 Oct 2014 1:46 pm
Operator :
Sample : SEQ-CAL2
Misc : 1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 17 11:37:17 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:37:06 2014
Response via : Initial Calibration



SP
10/22/14





TIC: 1016CAL2.D\data.ms

(51) Methyl methacrylate (M)

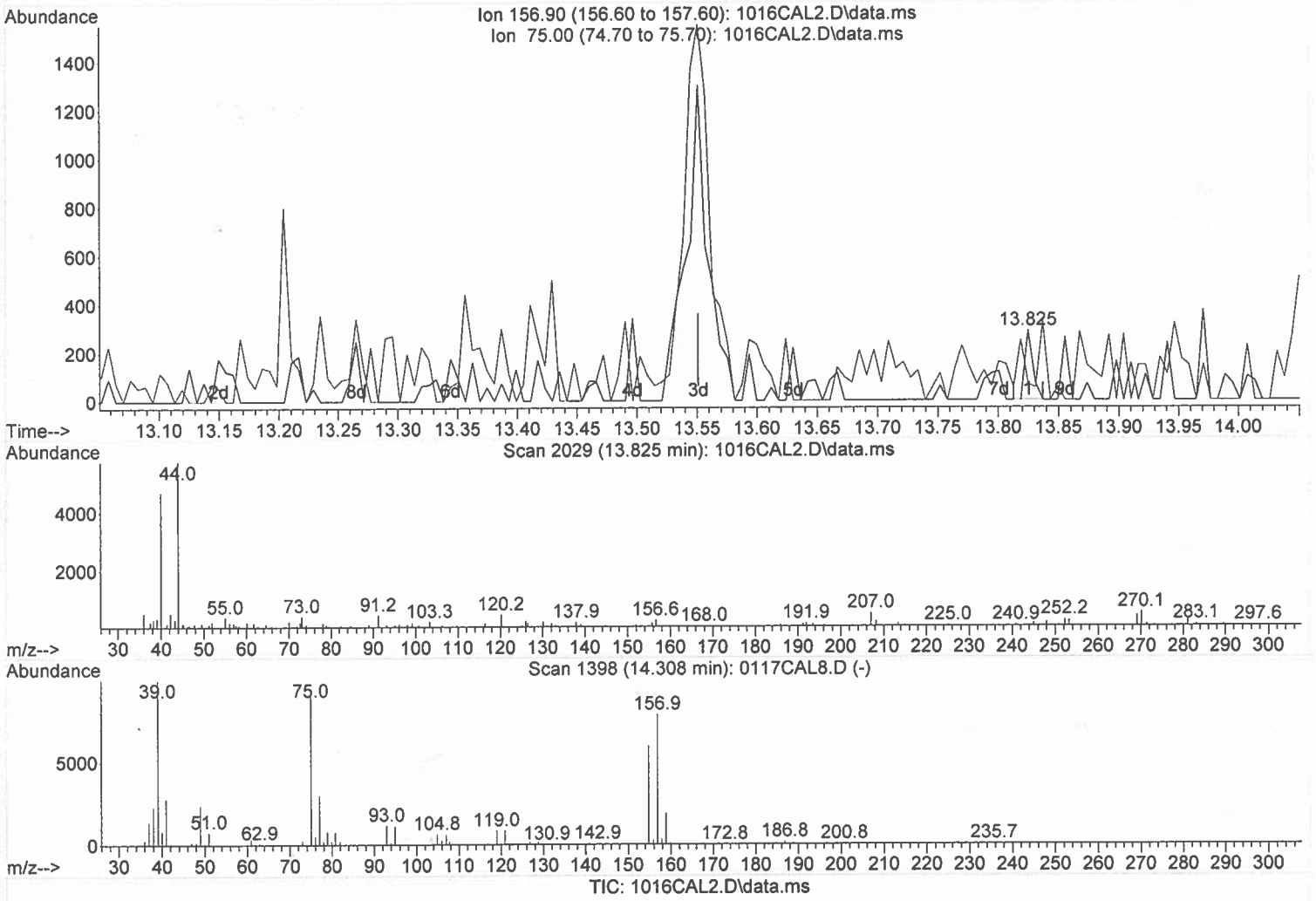
7.595min (+0.000) 0.90 ug/L m

response 11411

Ion	Exp%	Act%
41.10	100	100
69.00	52.30	30.94#
41.10	100.00	58.33#
0.00	0.00	0.00

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL2.D
Acq On : 16 Oct 2014 1:46 pm
Operator :
Sample : SEQ-CAL2
Misc : 1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 17 11:37:17 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:37:06 2014
Response via : Initial Calibration



(98) 1,2-Dibromo-3-chloropropane (M)

13.825min (+0.274) 0.06 ug/L

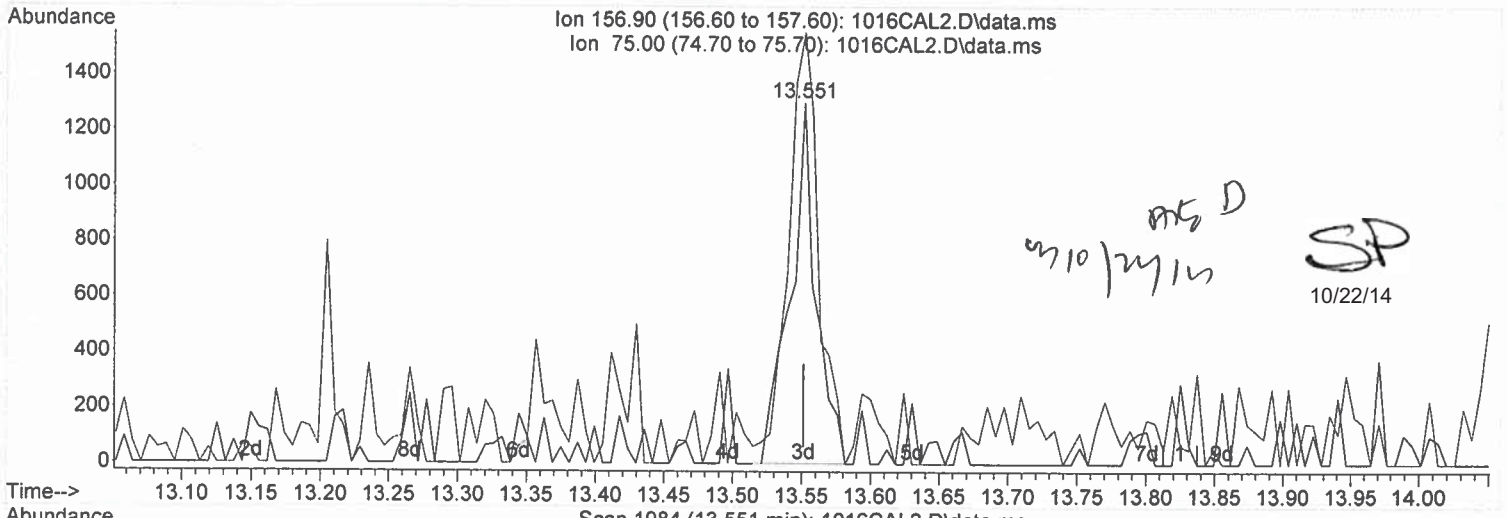
response 131

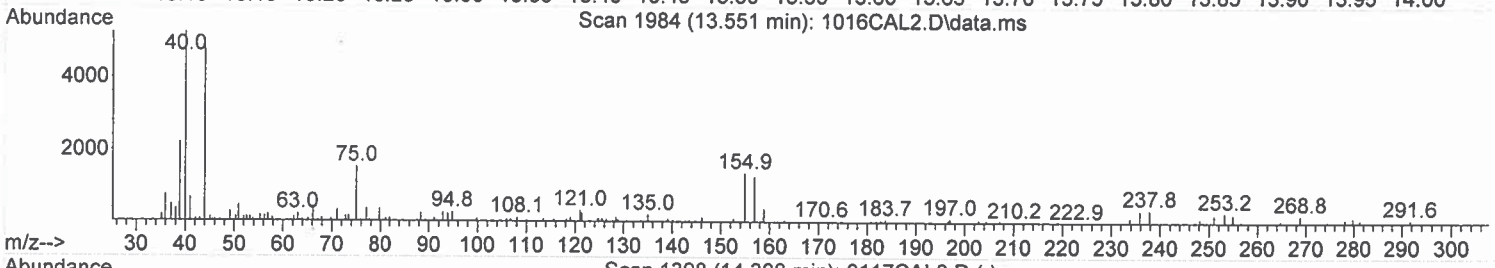
Ion	Exp%	Act%
156.90	100	100
75.00	94.20	106.11
0.00	0.00	0.00
0.00	0.00	0.00

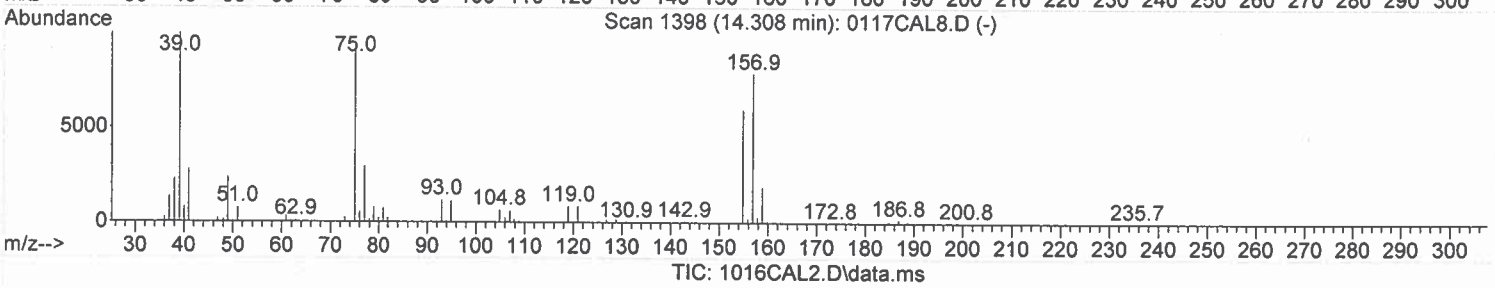
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL2.D
Acq On : 16 Oct 2014 1:46 pm
Operator :
Sample : SEQ-CAL2
Misc : 1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 17 11:37:17 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:37:06 2014
Response via : Initial Calibration







TIC: 1016CAL2.D\data.ms

(98) 1,2-Dibromo-3-chloropropane (M)

13.551min (+0.000) 0.74 ug/L m

response 1701

Ion	Exp%	Act%
156.90	100	100
75.00	94.20	8.17#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL3.D
Acq On : 16 Oct 2014 2:11 pm
Operator :
Sample : SEQ-CAL3
Misc : 1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 17 11:36:43 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:08:49 2014
Response via : Initial Calibration

10/10/2014

SP 10/22/14

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	6.865	96	860199	30.00	ug/L		0.00
59) Chlorobenzene-d5	10.114	82	341519	30.00	ug/L		0.00
81) 1,4-Dichlorobenzene-d4	12.547	152	316403	30.00	ug/L	#	0.00
System Monitoring Compounds							
37) Dibromofluoromethane	5.788	111	325238	42.68	ug/L		0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 142.27%#				
41) 1,2-Dichloroethane-d4	6.318	102	77866	42.17	ug/L		0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 140.57%#				
60) Toluene-d8	8.636	98	1086033	39.67	ug/L		0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 132.23%#				
80) Bromofluorobenzene	11.337	95	389330	37.82	ug/L		0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 126.07%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.536	85	14923	1.9922	ug/L		99
3) Chloromethane	1.694	50	29622	2.4846	ug/L		95
4) Vinyl chloride	1.798	62	13274	1.7883	ug/L		94
5) Bromomethane	2.132	94	11656	2.8170	ug/L		98
6) Chloroethane	2.223	64	10745	2.1081	ug/L		91
7) Trichlorofluoromethane	2.582	101	21937	2.0301	ug/L		96
8) Acrolein	2.716	56	21076	11.1043	ug/L		95
9) Acetone	2.801	43	23678	4.6012	ug/L		98
10) Acetonitrile	2.856	41	50282	22.3416	ug/L		96
11) Ethyl Ether	2.868	59	15940	1.9745	ug/L		93
12) 1,1-Dichloroethene	3.154	96	13755	1.9649	ug/L		92
13) Trichlorotrifluoroethane	3.185	101	13966	2.0064	ug/L		98
14) Iodomethane	3.318	142	8955	1.2318	ug/L	#	92
15) t-Butyl Alcohol	3.239	59	11500	8.9627	ug/L	#	43
16) Methyl Acetate	3.404	43	25989m	1.8528	ug/L		
17) Acrylonitrile	3.434	53	54340	9.9336	ug/L		95
18) Allyl chloride	3.495	76	8372	2.1151	ug/L		90
19) Methylene chloride	3.531	84	21042	2.3783	ug/L		91
20) Carbon disulfide	3.611	76	47328	2.3107	ug/L	#	92
21) trans-1,2-dichloroethene	4.195	96	14676	1.9859	ug/L		88
22) MTBE	4.164	73	50937	2.0415	ug/L		93
23) 1,1-Dichloroethane	4.590	63	34358	2.0483	ug/L		94
24) Vinyl acetate	4.657	43	96718	3.6004	ug/L		100
25) Propionitrile	4.779	54	41258	19.5177	ug/L	#	89
26) Hexane	4.785	57	14386	1.6714	ug/L	#	85
27) Chloroprene	4.858	53	27258	1.7194	ug/L	#	94
28) Di-isopropyl ether	4.955	45	77970	1.9686	ug/L		98
29) 2-Butanone	5.058	43	31537	4.0098	ug/L		93
30) Methacrylonitrile	5.241	41	187389	19.9932	ug/L		98
31) cis-1,2-Dichloroethene	5.338	96	15911	1.8949	ug/L		86
32) 2,2-Dichloropropane	5.448	77	22108	1.9043	ug/L	#	91
33) ETBE	5.460	59	61264	2.0176	ug/L		97
34) Chloroform	5.606	83	31813	2.1208	ug/L		95
35) Bromochloromethane	5.636	128	9739	2.1856	ug/L		92
36) Isobutyl alcohol	5.697	42	13371	34.3008	ug/L		92
38) Tetrahydrofuran	5.825	72	2705m	1.8951	ug/L		

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL3.D
Acq On : 16 Oct 2014 2:11 pm
Operator :
Sample : SEQ-CAL3
Misc : 1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 17 11:36:43 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:08:49 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39) tert-Amyl alcohol	5.995	59	8281	8.4481 ug/L #	88
40) 1,1,1-Trichloroethane	6.196	97	26322	2.1709 ug/L	97
42) 1,2-Dichloroethane	6.415	62	31629	2.2222 ug/L #	97
43) 1,1-Dichloropropene	6.421	75	20783	2.0105 ug/L	94
44) Cyclohexane	6.464	56	28514	1.7055 ug/L	92
45) Carbon tetrachloride	6.549	117	18686	1.8344 ug/L	94
46) Benzene	6.579	78	61828	1.9377 ug/L	97
47) tert- Amyl Methyl Ether	6.780	73	43208	1.8291 ug/L	93
48) Trichloroethene	7.388	95	17078	2.1278 ug/L	93
49) 1,2-Dichloropropane	7.443	63	19743	1.9885 ug/L	89
50) Dibromomethane	7.565	93	12636	2.1312 ug/L	99
51) Methyl methacrylate	7.595	41	22915	1.7807 ug/L	100
52) 1,4-Dioxane	7.620	88	5306	39.7477 ug/L #	95
53) Bromodichloromethane	7.626	83	24772	2.1781 ug/L	91
54) tert- Amyl Ethyl Ether	7.723	59	43753	1.8312 ug/L	97
55) Methyl cyclohexane	7.766	83	20669	1.7069 ug/L	96
56) 2-Chloroethyl vinyl ether	8.021	63	21460	3.3247 ug/L	95
57) 4-Methyl-2-pentanone	8.161	43	58776	3.9767 ug/L #	89
58) cis-1,3-Dichloropropene	8.234	75	23389	1.9003 ug/L	99
61) trans-1,3-Dichloropropene	8.733	75	22041	1.7595 ug/L	91
62) Toluene	8.721	92	38424	1.9473 ug/L	99
63) 1,1,2-Trichloroethane	8.891	83	15231	2.2029 ug/L	94
64) Ethyl methacrylate	8.946	69	18676	1.6063 ug/L	91
65) 2-Hexanone	9.055	43	38446	3.7900 ug/L #	88
66) 1,3-Dichloropropane	9.110	76	28132	2.0607 ug/L	97
67) Dibromochloromethane	9.366	129	15703	1.8447 ug/L	94
68) Tetrachloroethene	9.469	166	16246	2.0777 ug/L	94
69) 1,2-Dibromoethane	9.585	107	16305	1.9334 ug/L	94
70) 1-Chlorohexane	10.132	91	14910	1.6178 ug/L #	54
71) Chlorobenzene	10.150	112	44701	2.0575 ug/L	90
72) 1,1,1,2-Tetrachloroethane	10.199	131	15257	1.9675 ug/L #	1
73) Ethylbenzene	10.302	91	66200	1.9103 ug/L	92
74) m,p-Xylene	10.418	91	104144	3.7394 ug/L	97
75) Styrene	10.789	104	36743	1.6541 ug/L	98
76) o-Xylene	10.813	91	54951	1.8081 ug/L	98
77) Bromoform	10.893	173	10733	1.9863 ug/L	98
78) Isopropylbenzene	11.221	105	57759	1.8056 ug/L	98
79) 1,2,3-Trichloropropane	11.288	110	8092	2.1725 ug/L #	74
82) cis-1,4-Dichloro-2-butene	10.996	53	7110	1.7813 ug/L #	82
83) 1,1,2,2-Tetrachloroethane	11.154	83	22211	2.0472 ug/L	90
84) trans-1,4-Dichloro-2-b...	11.318	53	6387	1.6406 ug/L #	1
85) Bromobenzene	11.489	156	17659	1.8644 ug/L	95
86) n-Propylbenzene	11.635	91	67839	1.7364 ug/L	100
87) 2-Chlorotoluene	11.714	91	49026	1.9225 ug/L	97
88) 4-Chlorotoluene	11.781	91	45713	1.7938 ug/L	98
89) 1,3,5-Trimethylbenzene	11.817	105	51956	1.7316 ug/L	100
90) tert-Butylbenzene	12.164	119	54586	1.8160 ug/L	97
91) 1,2,4-Trimethylbenzene	12.194	105	50733	1.6013 ug/L	98
92) sec-Butylbenzene	12.395	105	60758	1.6936 ug/L	99
93) 1,3-Dichlorobenzene	12.480	146	32295	2.0097 ug/L	99
94) 1,4-Dichlorobenzene	12.578	146	32716	2.0313 ug/L	97
95) p-Isopropyltoluene	12.541	119	50181	1.5988 ug/L	95

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL3.D
Acq On : 16 Oct 2014 2:11 pm
Operator :
Sample : SEQ-CAL3
Misc : 1
ALS Vial : 6 Sample Multiplier: 1

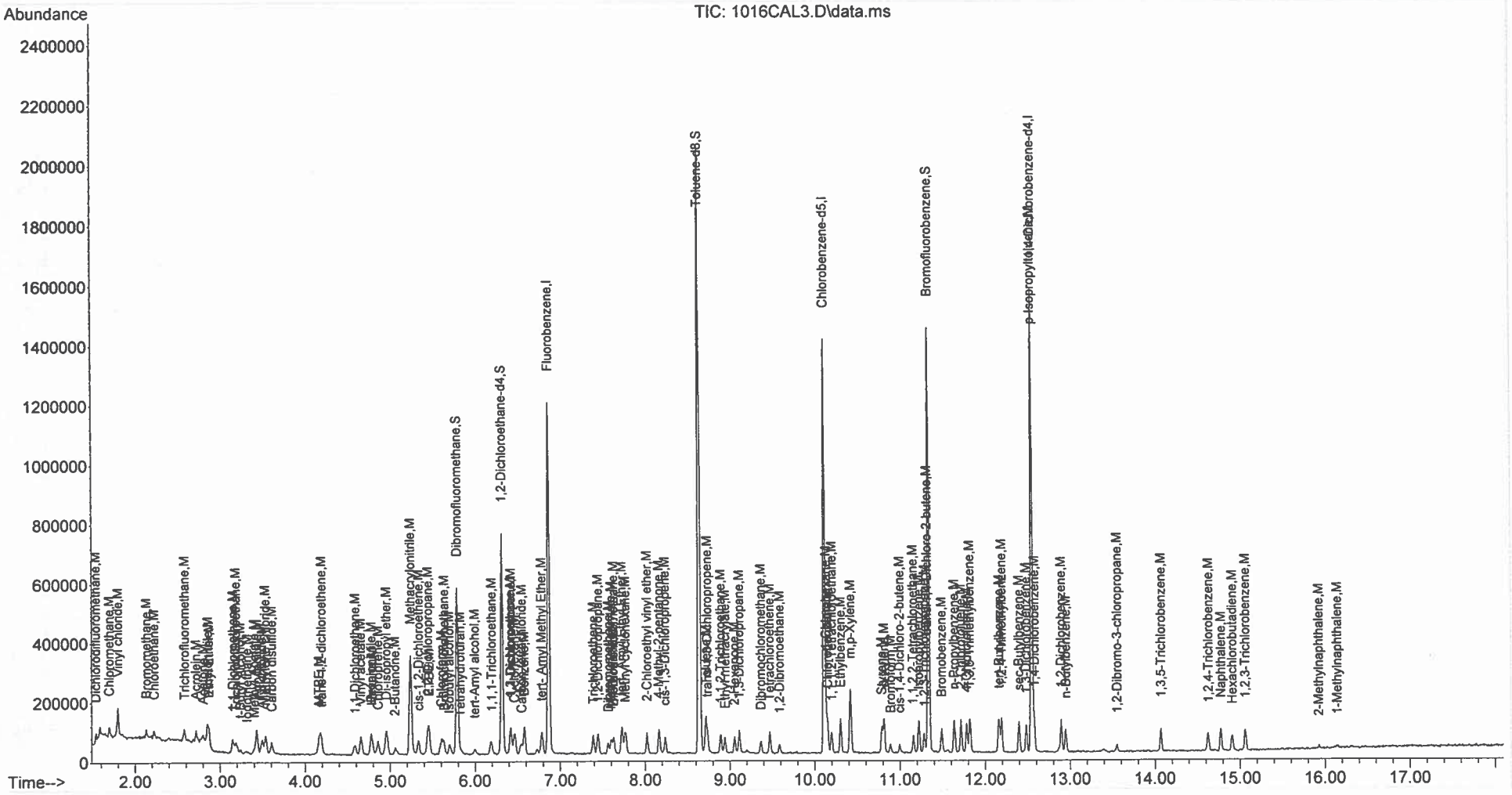
Quant Time: Oct 17 11:36:43 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:08:49 2014
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
96)	1,2-Dichlorobenzene	12.894	146	34872	2.1012	ug/L	95
97)	n-Butylbenzene	12.949	91	36796	1.4218	ug/L	96
98)	1,2-Dibromo-3-chloropr...	13.551	157	4408	1.8239	ug/L	91
99)	1,3,5-Trichlorobenzene	14.068	180	19587	1.6549	ug/L	98
100)	1,2,4-Trichlorobenzene	14.628	180	17029	1.6079	ug/L	94
101)	Naphthalene	14.774	128	51158	1.5153	ug/L	100
102)	Hexachlorobutadiene	14.908	225	9577	1.9234	ug/L	94
103)	1,2,3-Trichlorobenzene	15.060	180	18029	1.6220	ug/L	95
104)	2-Methylnaphthalene	15.924	142	3554m	0.1188	ug/L	
105)	1-Methylnaphthalene	16.143	142	3361	0.1107	ug/L	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL3.D
Acq On : 16 Oct 2014 2:11 pm
Operator :
Sample : SEQ-CAL3
Misc : 1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 17 11:36:43 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:08:49 2014
Response via : Initial Calibration

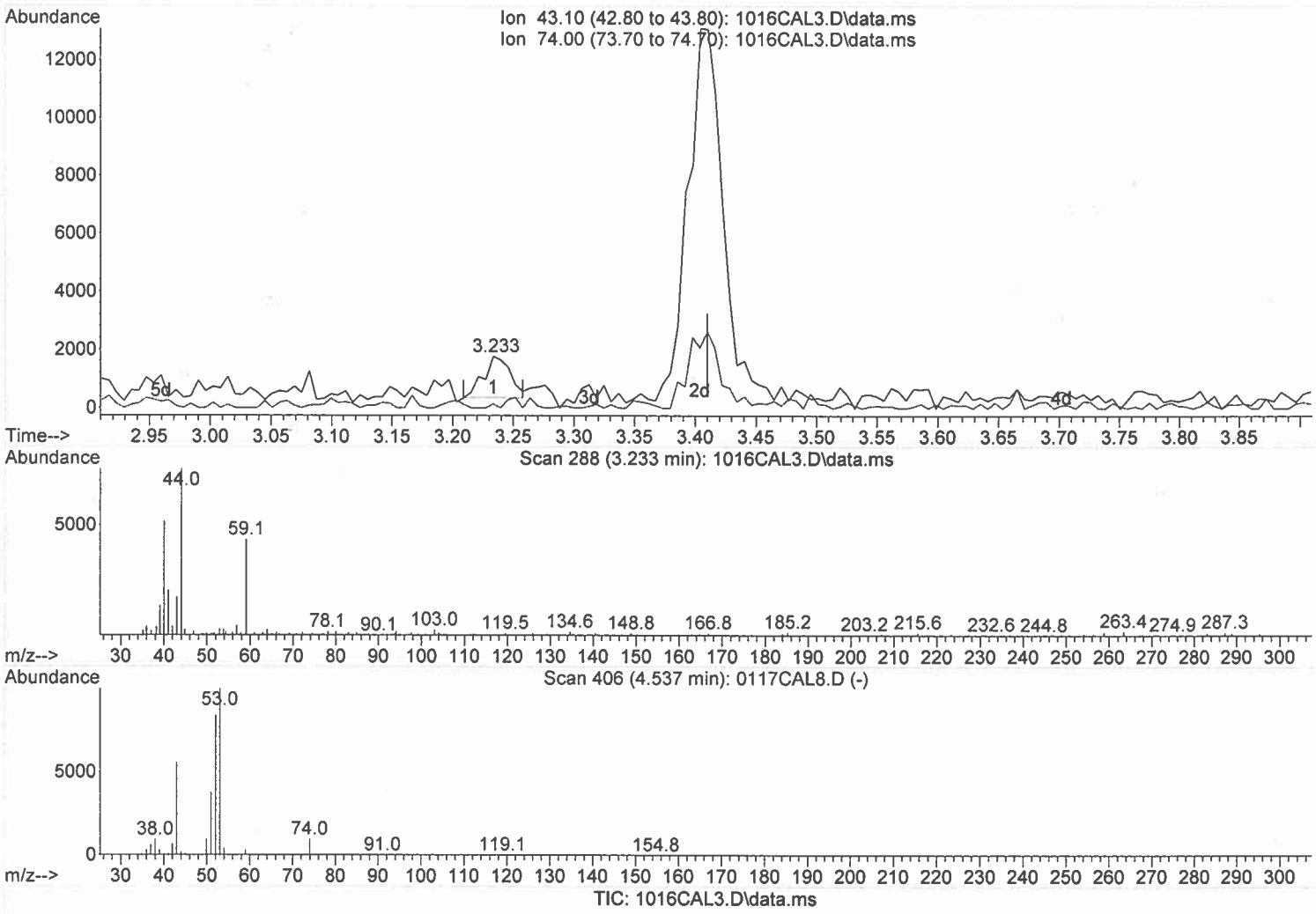


105
1501134

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL3.D
Acq On : 16 Oct 2014 2:11 pm
Operator :
Sample : SEQ-CAL3
Misc : 1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 17 11:09:00 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:08:49 2014
Response via : Initial Calibration



TIC: 1016CAL3.D\data.ms

(16) Methyl Acetate (M)

3.233min (-0.176) 0.16 ug/L

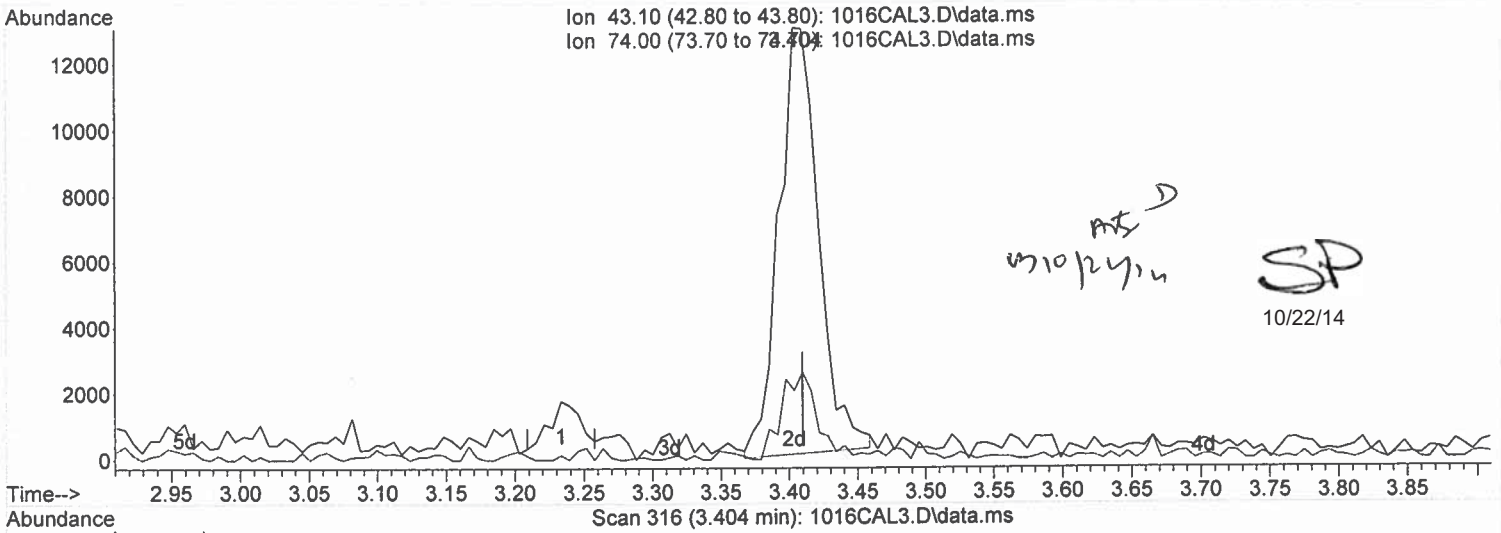
response 2193

Ion	Exp%	Act%
43.10	100	100
74.00	14.50	12.72
0.00	0.00	0.00
0.00	0.00	0.00

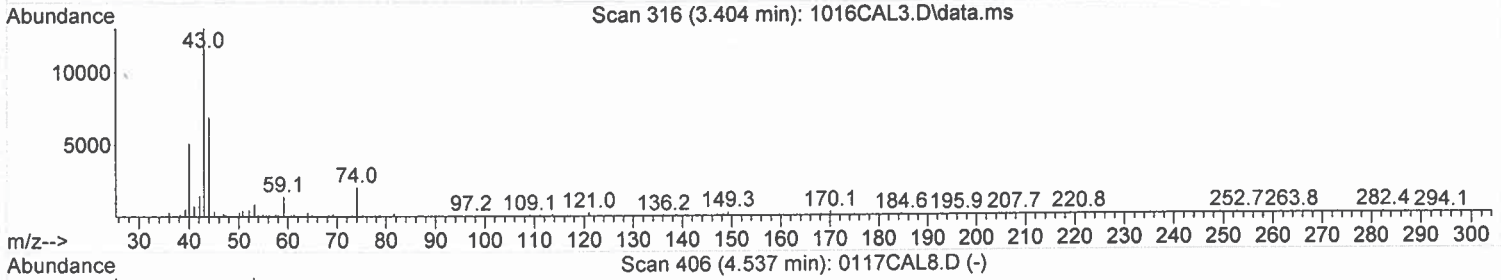
Quantitation Report (Qedit)

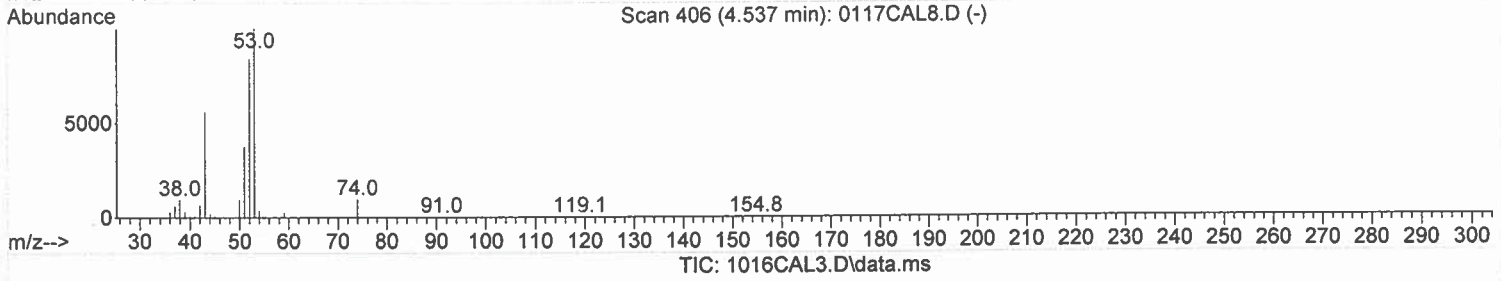
Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL3.D
Acq On : 16 Oct 2014 2:11 pm
Operator :
Sample : SEQ-CAL3
Misc : 1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 17 11:09:00 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:08:49 2014
Response via : Initial Calibration



10/22/14





(16) Methyl Acetate (M)

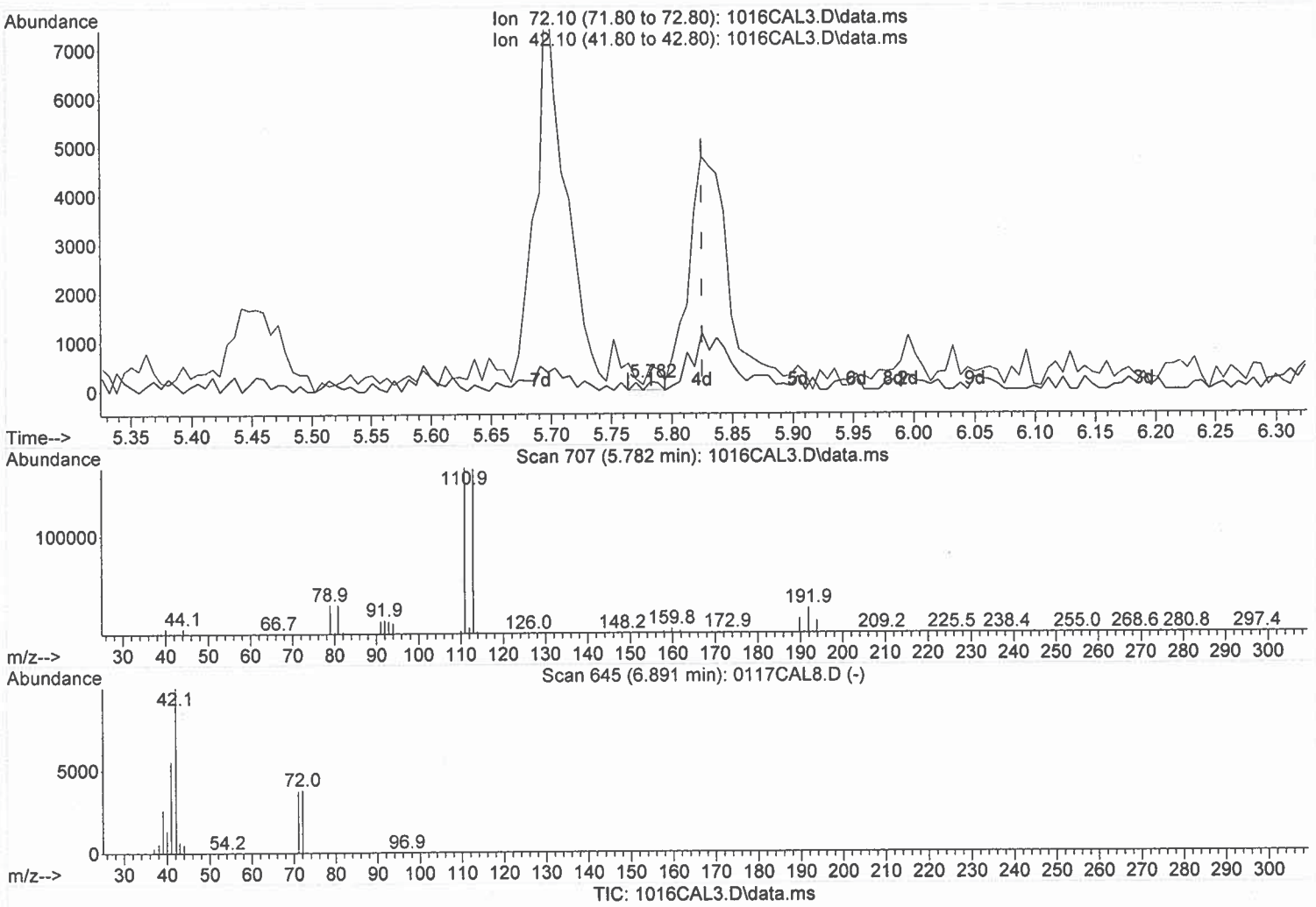
3.404min (-0.006) 1.85 ug/L m

response 25989

Ion	Exp%	Act%
43.10	100	100
74.00	14.50	1.07#
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL3.D
Acq On : 16 Oct 2014 2:11 pm
Operator :
Sample : SEQ-CAL3
Misc : 1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 17 11:09:00 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:08:49 2014
Response via : Initial Calibration



(38) Tetrahydrofuran (M)

5.782min (-0.043) 0.12 ug/L

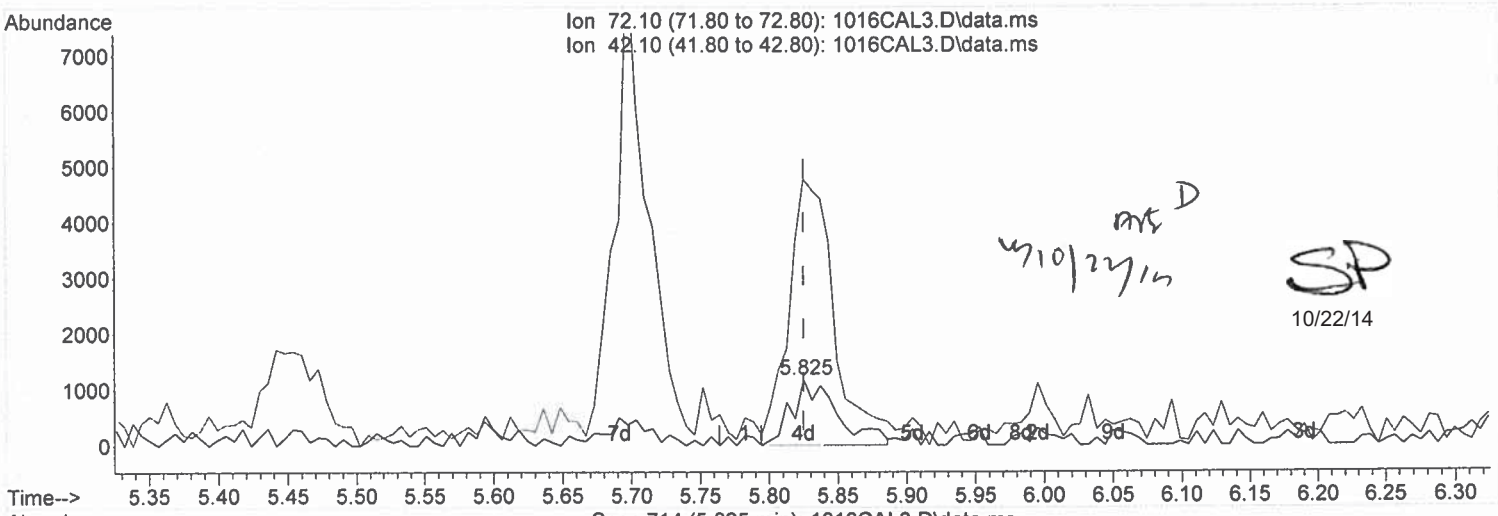
response 170

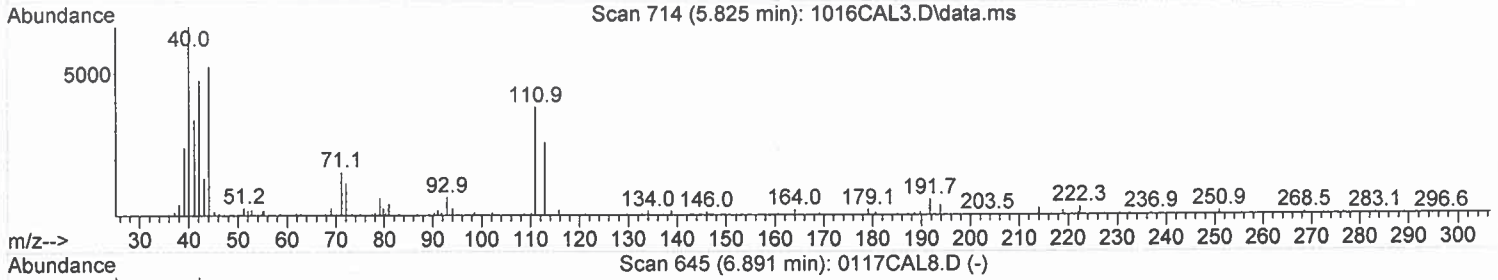
Ion	Exp%	Act%
72.10	100	100
42.10	360.60	395.29
0.00	0.00	0.00
0.00	0.00	0.00

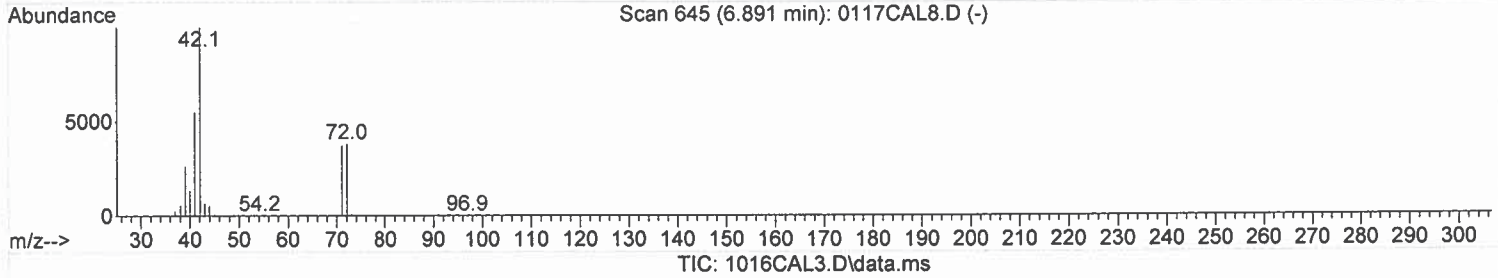
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL3.D
Acq On : 16 Oct 2014 2:11 pm
Operator :
Sample : SEQ-CAL3
Misc : 1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 17 11:09:00 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:08:49 2014
Response via : Initial Calibration







TIC: 1016CAL3.D\data.ms

(38) Tetrahydrofuran (M)

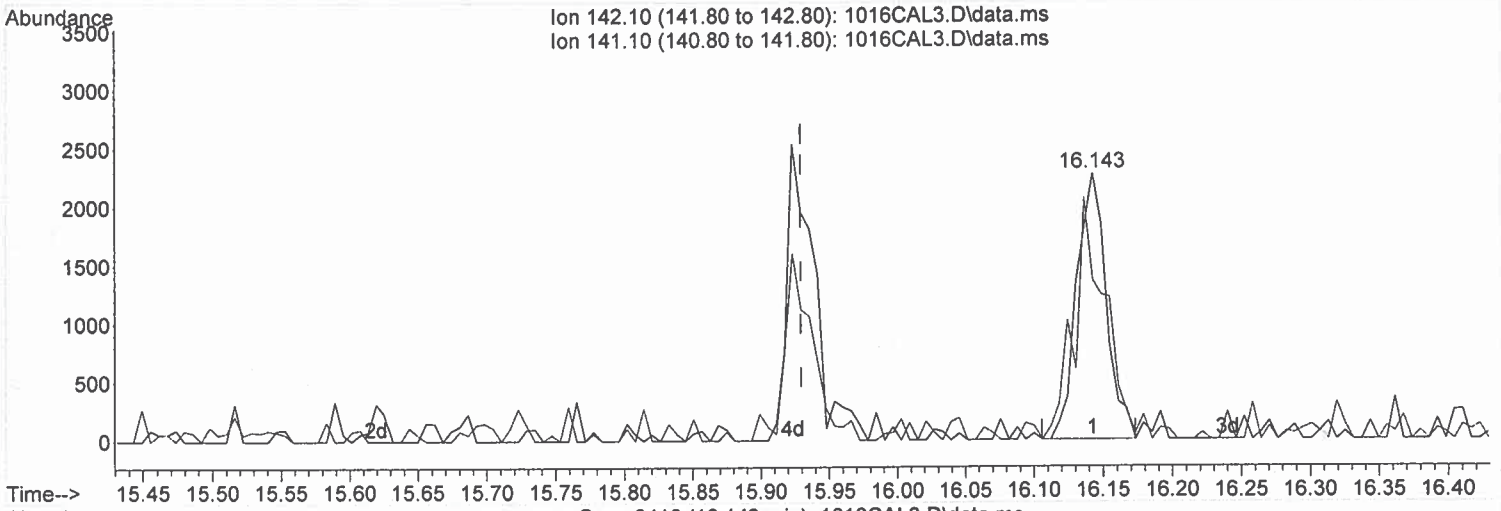
5.825min (-0.000) 1.90 ug/L m

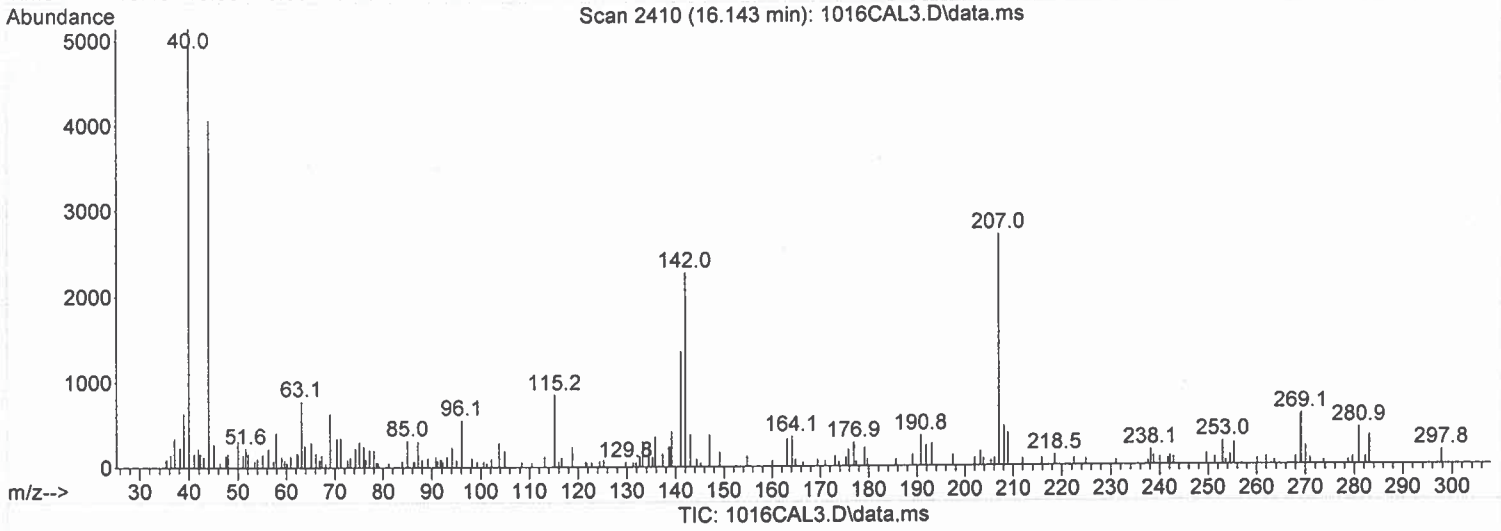
response 2705

Ion	Exp%	Act%
72.10	100	100
42.10	360.60	24.84#
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL3.D
Acq On : 16 Oct 2014 2:11 pm
Operator :
Sample : SEQ-CAL3
Misc : 1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 17 11:09:00 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:08:49 2014
Response via : Initial Calibration





TIC: 1016CAL3.D\data.ms

(104) 2-Methylnaphthalene (M)

16.143min (+0.213) 0.11 ug/L

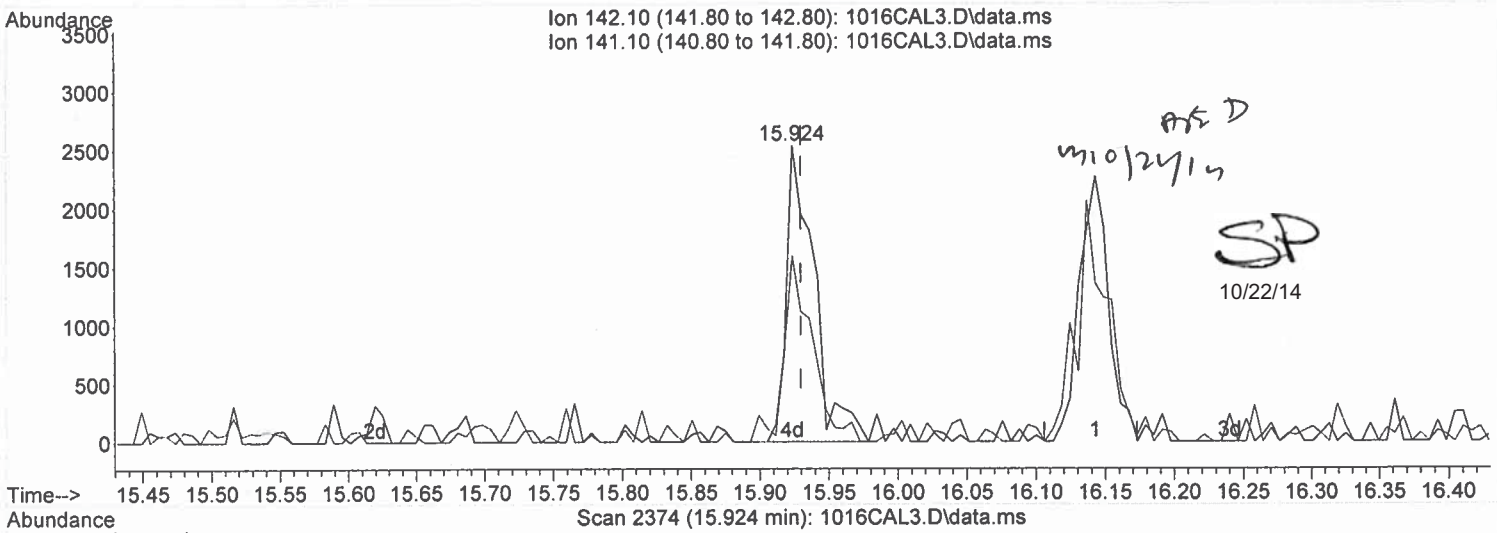
response 3361

Ion	Exp%	Act%
142.10	100	100
141.10	86.10	98.57
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL3.D
Acq On : 16 Oct 2014 2:11 pm
Operator :
Sample : SEQ-CAL3
Misc : 1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 17 11:09:00 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:08:49 2014
Response via : Initial Calibration



TIC: 1016CAL3.D\data.ms

(104) 2-Methylnaphthalene (M)

15.924min (-0.006) 0.12 ug/L m

response 3554

Ion	Exp%	Act%
142.10	100	100
141.10	86.10	93.22
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL4.D
Acq On : 16 Oct 2014 2:36 pm
Operator :
Sample : SEQ-CAL4
Misc : 1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 17 11:07:56 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:07:46 2014
Response via : Initial Calibration

10/22/14

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	6.865	96	844606	30.00	ug/L	0.00
59) Chlorobenzene-d5	10.114	82	336830	30.00	ug/L	0.00
81) 1,4-Dichlorobenzene-d4	12.547	152	324953	30.00	ug/L	# 0.00
System Monitoring Compounds						
37) Dibromofluoromethane	5.788	111	402726	54.52	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 181.73%#			
41) 1,2-Dichloroethane-d4	6.318	102	100427	56.14	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 187.13%#			
60) Toluene-d8	8.636	98	1361161	50.43	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 168.10%#			
80) Bromofluorobenzene	11.337	95	503397	49.75	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 165.83%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.536	85	33690	4.7349	ug/L	99
3) Chloromethane	1.694	50	60985	5.3683	ug/L	99
4) Vinyl chloride	1.798	62	36753	5.1591	ug/L	97
5) Bromomethane	2.132	94	22004	5.5854	ug/L	91
6) Chloroethane	2.223	64	26103	5.2951	ug/L	98
7) Trichlorofluoromethane	2.582	101	57878	5.6674	ug/L	97
8) Acrolein	2.716	56	51130	28.9173	ug/L	97
9) Acetone	2.795	43	51696	10.3481	ug/L	99
10) Acetonitrile	2.850	41	113280	51.6551	ug/L	96
11) Ethyl Ether	2.868	59	38362	4.8267	ug/L	95
12) 1,1-Dichloroethene	3.148	96	34950	5.2212	ug/L	98
13) Trichlorotrifluoroethane	3.191	101	37077	5.6375	ug/L	97
14) Iodomethane	3.318	142	25034	3.4315	ug/L	97
15) t-Butyl Alcohol	3.233	59	26583	20.8488	ug/L	89
16) Methyl Acetate	3.410	43	65748	4.7683	ug/L	98
17) Acrylonitrile	3.434	53	145398	27.4258	ug/L	98
18) Allyl chloride	3.495	76	18353	4.6887	ug/L	99
19) Methylene chloride	3.531	84	50504	6.0395	ug/L	94
20) Carbon disulfide	3.611	76	102141	5.1576	ug/L	98
21) trans-1,2-dichloroethene	4.188	96	38146	5.3562	ug/L	95
22) MTBE	4.170	73	123046	5.0234	ug/L	97
23) 1,1-Dichloroethane	4.584	63	89490	5.5104	ug/L	97
24) Vinyl acetate	4.657	43	247428	9.2447	ug/L	99
25) Propionitrile	4.779	54	108018	52.4384	ug/L	99
26) Hexane	4.785	57	34727	4.1068	ug/L	91
27) Chloroprene	4.858	53	73158	4.7281	ug/L	97
28) Di-isopropyl ether	4.955	45	196438	5.0778	ug/L	98
29) 2-Butanone	5.058	43	78858	10.3526	ug/L	100
30) Methacrylonitrile	5.241	41	485946	53.0657	ug/L	97
31) cis-1,2-Dichloroethene	5.338	96	43961	5.3845	ug/L	98
32) 2,2-Dichloropropane	5.448	77	53383	4.6910	ug/L	98
33) ETBE	5.454	59	150286	5.0053	ug/L	97
34) Chloroform	5.600	83	75609	5.2208	ug/L	96
35) Bromochloromethane	5.636	128	23286	5.3632	ug/L	94
36) Isobutyl alcohol	5.697	42	33991	86.5416	ug/L	94
38) Tetrahydrofuran	5.825	72	7239	5.1864	ug/L	70

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL4.D
Acq On : 16 Oct 2014 2:36 pm
Operator :
Sample : SEQ-CAL4
Misc : 1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 17 11:07:56 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:07:46 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
39) tert-Amyl alcohol	5.995	59	19675	19.9331 ug/L		88
40) 1,1,1-Trichloroethane	6.190	97	64367	5.5303 ug/L		98
42) 1,2-Dichloroethane	6.415	62	74680	5.4029 ug/L		97
43) 1,1-Dichloropropene	6.421	75	48314	4.8075 ug/L		97
44) Cyclohexane	6.464	56	75480	4.6302 ug/L		99
45) Carbon tetrachloride	6.543	117	50124	5.0613 ug/L		93
46) Benzene	6.585	78	163208	5.2746 ug/L		97
47) tert- Amyl Methyl Ether	6.786	73	107917	4.5918 ug/L	#	92
48) Trichloroethene	7.382	95	39653	5.0986 ug/L		98
49) 1,2-Dichloropropane	7.443	63	50296	5.1884 ug/L		96
50) Dibromomethane	7.559	93	30247	5.2685 ug/L		100
51) Methyl methacrylate	7.595	41	58033	4.5230 ug/L		100
52) 1,4-Dioxane	7.614	88	13331	103.3968 ug/L		96
53) Bromodichloromethane	7.632	83	55731	5.0522 ug/L		97
54) tert- Amyl Ethyl Ether	7.723	59	109352	4.5949 ug/L		98
55) Methyl cyclohexane	7.766	83	53258	4.5036 ug/L		97
56) 2-Chloroethyl vinyl ether	8.021	63	54803	8.2713 ug/L		98
57) 4-Methyl-2-pentanone	8.161	43	137277	9.4085 ug/L	#	92
58) cis-1,3-Dichloropropene	8.234	75	57813	4.7684 ug/L		97
61) trans-1,3-Dichloropropene	8.739	75	54629	4.3788 ug/L		90
62) Toluene	8.715	92	100214	5.2092 ug/L		97
63) 1,1,2-Trichloroethane	8.891	83	36704	5.4732 ug/L		99
64) Ethyl methacrylate	8.940	69	52127	4.4924 ug/L		97
65) 2-Hexanone	9.055	43	94997	9.4705 ug/L	#	94
66) 1,3-Dichloropropane	9.110	76	70270	5.2751 ug/L		99
67) Dibromochloromethane	9.366	129	39692	4.7359 ug/L		99
68) Tetrachloroethene	9.469	166	38916	5.1054 ug/L		100
69) 1,2-Dibromoethane	9.585	107	41876	5.0603 ug/L		99
70) 1-Chlorohexane	10.132	91	38371	4.2067 ug/L	#	83
71) Chlorobenzene	10.150	112	110814	5.2620 ug/L		93
72) 1,1,1,2-Tetrachloroethane	10.199	131	37787	4.9734 ug/L		95
73) Ethylbenzene	10.302	91	162724	4.7731 ug/L		99
74) m,p-Xylene	10.418	91	265662	9.7330 ug/L		97
75) Styrene	10.789	104	100791	4.5807 ug/L		98
76) o-Xylene	10.813	91	148630	4.9882 ug/L		98
77) Bromoform	10.893	173	24492	4.5524 ug/L		99
78) Isopropylbenzene	11.221	105	145434	4.6120 ug/L		100
79) 1,2,3-Trichloropropane	11.282	110	18807	5.1865 ug/L		94
82) cis-1,4-Dichloro-2-butene	10.996	53	16908	3.8740 ug/L		85
83) 1,1,2,2-Tetrachloroethane	11.160	83	55665	4.9720 ug/L		100
84) trans-1,4-Dichloro-2-b...	11.312	53	18184	4.3909 ug/L	#	1
85) Bromobenzene	11.489	156	48578	5.0237 ug/L		97
86) n-Propylbenzene	11.635	91	189202	4.7080 ug/L		97
87) 2-Chlorotoluene	11.714	91	125809	4.7773 ug/L		100
88) 4-Chlorotoluene	11.781	91	121690	4.6325 ug/L		96
89) 1,3,5-Trimethylbenzene	11.817	105	142251	4.5590 ug/L		99
90) tert-Butylbenzene	12.164	119	136249	4.3641 ug/L		100
91) 1,2,4-Trimethylbenzene	12.194	105	141374	4.2760 ug/L		99
92) sec-Butylbenzene	12.395	105	163462	4.3959 ug/L		98
93) 1,3-Dichlorobenzene	12.480	146	81098	4.9256 ug/L		98
94) 1,4-Dichlorobenzene	12.578	146	85104	5.1787 ug/L		95
95) p-Isopropyltoluene	12.541	119	142093	4.3718 ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL4.D
Acq On : 16 Oct 2014 2:36 pm
Operator :
Sample : SEQ-CAL4
Misc : 1
ALS Vial : 7 Sample Multiplier: 1

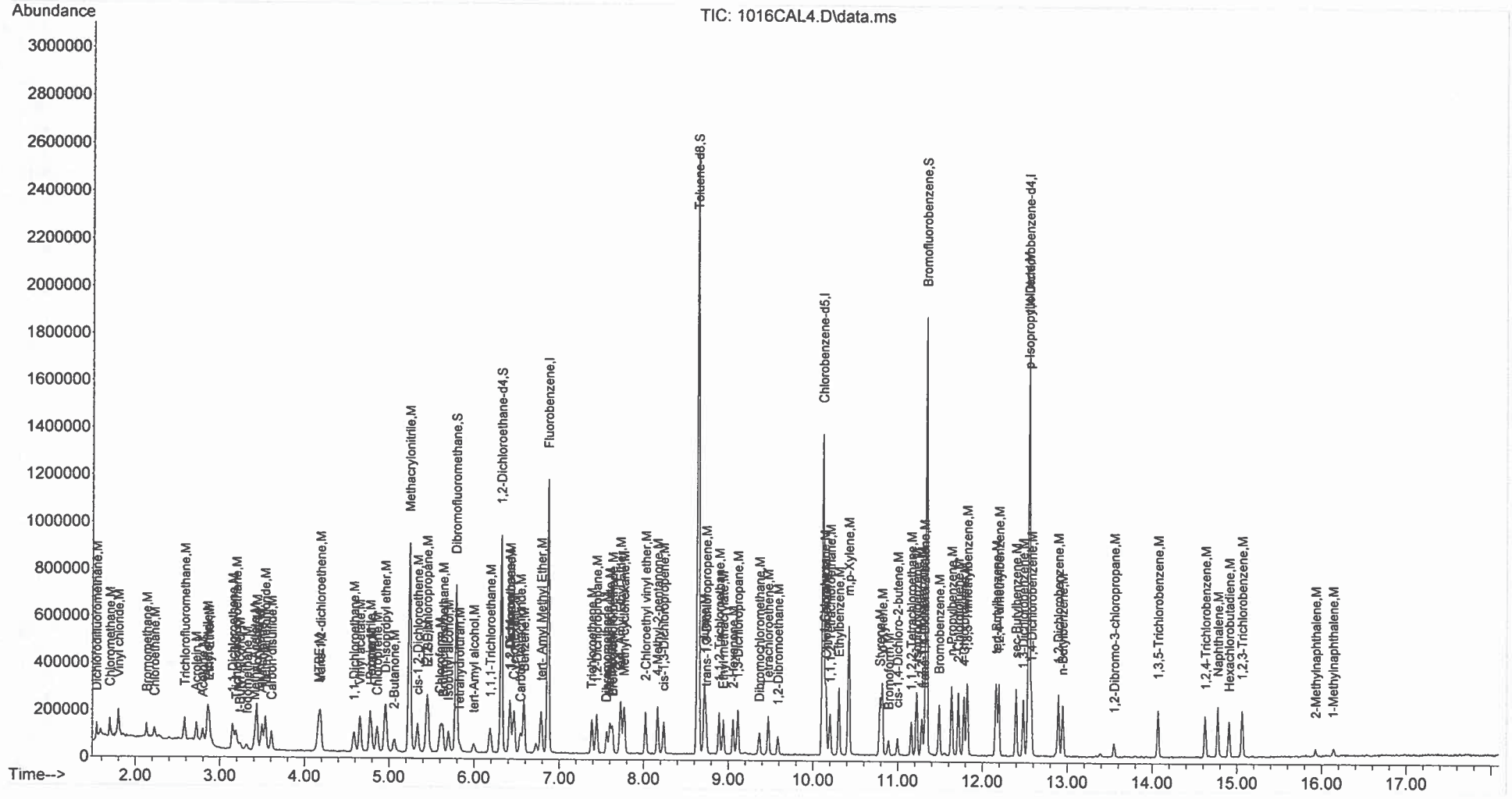
Quant Time: Oct 17 11:07:56 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:07:46 2014
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
96)	1,2-Dichlorobenzene	12.894	146	87557	5.1529	ug/L	97
97)	n-Butylbenzene	12.943	91	102523	3.8013	ug/L	98
98)	1,2-Dibromo-3-chloropr...	13.551	157	11461	4.6087	ug/L	93
99)	1,3,5-Trichlorobenzene	14.068	180	47264	3.8122	ug/L	91
100)	1,2,4-Trichlorobenzene	14.628	180	44904	4.0920	ug/L	95
101)	Naphthalene	14.774	128	136385	3.8390	ug/L	100
102)	Hexachlorobutadiene	14.908	225	24352	4.8491	ug/L	96
103)	1,2,3-Trichlorobenzene	15.060	180	50426	4.3939	ug/L	96
104)	2-Methylnaphthalene	15.930	142	9947	0.2623	ug/L	96
105)	1-Methylnaphthalene	16.137	142	12815	0.3386	ug/L	86

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL4.D
Acq On : 16 Oct 2014 2:36 pm
Operator :
Sample : SEQ-CAL4
Misc : 1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 17 11:07:56 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:07:46 2014
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL5.D
Acq On : 16 Oct 2014 3:01 pm
Operator :
Sample : SEQ-CAL5
Misc : 1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 17 11:06:51 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:06:40 2014
Response via : Initial Calibration

10/22/14

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	6.865	96	892199	30.00	ug/L	0.00
59) Chlorobenzene-d5	10.114	82	354114	30.00	ug/L	0.00
81) 1,4-Dichlorobenzene-d4	12.547	152	342855	30.00	ug/L	# 0.00
System Monitoring Compounds						
37) Dibromofluoromethane	5.789	111	501955	64.92	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 216.40%#			
41) 1,2-Dichloroethane-d4	6.318	102	123959	66.39	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 221.30%#			
60) Toluene-d8	8.636	98	1714492	60.61	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 202.03%#			
80) Bromofluorobenzene	11.337	95	634876	59.96	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 199.87%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.536	85	91716	12.7940	ug/L	99
3) Chloromethane	1.694	50	126702	10.8669	ug/L	99
4) Vinyl chloride	1.798	62	78211	10.4870	ug/L	96
5) Bromomethane	2.132	94	45691	11.3227	ug/L	96
6) Chloroethane	2.224	64	52521	10.1892	ug/L	95
7) Trichlorofluoromethane	2.576	101	117618	11.2533	ug/L	99
8) Acrolein	2.716	56	96708	54.9635	ug/L	95
9) Acetone	2.795	43	103527	20.2426	ug/L	98
10) Acetonitrile	2.850	41	235433	103.5434	ug/L	99
11) Ethyl Ether	2.868	59	79579	9.5197	ug/L	95
12) 1,1-Dichloroethene	3.148	96	71037	10.2505	ug/L	99
13) Trichlorotrifluoroethane	3.191	101	74501	11.0173	ug/L	96
14) Iodomethane	3.313	142	63185	8.1169	ug/L	98
15) t-Butyl Alcohol	3.233	59	57087	42.2908	ug/L	100
16) Methyl Acetate	3.404	43	133497	9.3045	ug/L	100
17) Acrylonitrile	3.434	53	288004	52.4504	ug/L	99
18) Allyl chloride	3.501	76	37942	9.2393	ug/L	92
19) Methylene chloride	3.532	84	95764	11.3032	ug/L	98
20) Carbon disulfide	3.605	76	215651	10.5394	ug/L	100
21) trans-1,2-dichloroethene	4.195	96	81546	11.1215	ug/L	96
22) MTBE	4.170	73	242836	9.4752	ug/L	97
23) 1,1-Dichloroethane	4.584	63	174615	10.3423	ug/L	98
24) Vinyl acetate	4.657	43	511204	18.0170	ug/L	100
25) Propionitrile	4.773	54	227196	106.3629	ug/L	99
26) Hexane	4.785	57	79191	8.8257	ug/L	90
27) Chloroprene	4.858	53	155571	9.5905	ug/L	99
28) Di-isopropyl ether	4.955	45	407463	10.1345	ug/L	99
29) 2-Butanone	5.059	43	159099	20.1968	ug/L	98
30) Methacrylonitrile	5.241	41	1010269	106.3879	ug/L	98
31) cis-1,2-Dichloroethene	5.332	96	88793	10.4860	ug/L	99
32) 2,2-Dichloropropane	5.442	77	112990	9.4765	ug/L	100
33) ETBE	5.454	59	302429	9.5783	ug/L	95
34) Chloroform	5.600	83	152415	10.1878	ug/L	94
35) Bromochloromethane	5.630	128	45165	10.0101	ug/L	97
36) Isobutyl alcohol	5.697	42	69990	167.8876	ug/L	95
38) Tetrahydrofuran	5.825	72	13952	9.5549	ug/L	87

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL5.D
Acq On : 16 Oct 2014 3:01 pm
Operator :
Sample : SEQ-CAL5
Misc : 1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 17 11:06:51 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:06:40 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39) tert-Amyl alcohol	5.989	59	43299	41.3314 ug/L	95
40) 1,1,1-Trichloroethane	6.184	97	126070	10.4448 ug/L	98
42) 1,2-Dichloroethane	6.415	62	152132	10.6354 ug/L	98
43) 1,1-Dichloropropene	6.421	75	105727	10.1560 ug/L	99
44) Cyclohexane	6.464	56	157518	9.2044 ug/L	99
45) Carbon tetrachloride	6.543	117	99753	9.6493 ug/L	100
46) Benzene	6.579	78	345289	10.8256 ug/L	99
47) tert- Amyl Methyl Ether	6.786	73	232896	9.4206 ug/L	97
48) Trichloroethene	7.389	95	82935	10.3002 ug/L	99
49) 1,2-Dichloropropane	7.443	63	102373	10.1819 ug/L	99
50) Dibromomethane	7.559	93	62702	10.6081 ug/L	96
51) Methyl methacrylate	7.595	41	120823	8.9103 ug/L	99
52) 1,4-Dioxane	7.614	88	24907	184.3057 ug/L	92
53) Bromodichloromethane	7.632	83	114500	10.0020 ug/L	100
54) tert- Amyl Ethyl Ether	7.723	59	230504	9.1621 ug/L	98
55) Methyl cyclohexane	7.766	83	118217	9.5612 ug/L	97
56) 2-Chloroethyl vinyl ether	8.021	63	115703	16.1099 ug/L	99
57) 4-Methyl-2-pentanone	8.161	43	293515	19.2424 ug/L #	92
58) cis-1,3-Dichloropropene	8.234	75	120236	9.4747 ug/L	97
61) trans-1,3-Dichloropropene	8.739	75	119542	9.1940 ug/L	96
62) Toluene	8.715	92	201715	10.1594 ug/L	99
63) 1,1,2-Trichloroethane	8.891	83	72588	10.5562 ug/L	95
64) Ethyl methacrylate	8.940	69	105251	8.6256 ug/L	99
65) 2-Hexanone	9.055	43	189671	18.0105 ug/L #	97
66) 1,3-Dichloropropane	9.110	76	144672	10.5418 ug/L	98
67) Dibromochloromethane	9.366	129	83120	9.5826 ug/L	98
68) Tetrachloroethene	9.469	166	83216	10.6572 ug/L	97
69) 1,2-Dibromoethane	9.585	107	85272	9.9704 ug/L	91
70) 1-Chlorohexane	10.132	91	80286	8.3694 ug/L	87
71) Chlorobenzene	10.150	112	227548	10.5061 ug/L	98
72) 1,1,1,2-Tetrachloroethane	10.199	131	76308	9.6540 ug/L	99
73) Ethylbenzene	10.303	91	351417	9.9394 ug/L	100
74) m,p-Xylene	10.418	91	580565	20.6167 ug/L	99
75) Styrene	10.789	104	211536	9.2387 ug/L	98
76) o-Xylene	10.814	91	308741	10.0265 ug/L	99
77) Bromoform	10.887	173	51120	9.1093 ug/L	98
78) Isopropylbenzene	11.221	105	331009	10.1576 ug/L	98
79) 1,2,3-Trichloropropane	11.288	110	38897	10.4540 ug/L #	90
82) cis-1,4-Dichloro-2-butene	10.996	53	34459	7.1542 ug/L #	85
83) 1,1,2,2-Tetrachloroethane	11.160	83	115612	9.8653 ug/L	96
84) trans-1,4-Dichloro-2-b...	11.319	53	35997	7.9799 ug/L #	1
85) Bromobenzene	11.489	156	97706	9.7102 ug/L	99
86) n-Propylbenzene	11.635	91	410796	9.7740 ug/L	99
87) 2-Chlorotoluene	11.714	91	266247	9.6545 ug/L	96
88) 4-Chlorotoluene	11.781	91	262304	9.5152 ug/L	98
89) 1,3,5-Trimethylbenzene	11.823	105	311083	9.4733 ug/L	97
90) tert-Butylbenzene	12.158	119	309176	9.4179 ug/L	99
91) 1,2,4-Trimethylbenzene	12.195	105	329797	9.4855 ug/L	97
92) sec-Butylbenzene	12.395	105	382511	9.8020 ug/L	98
93) 1,3-Dichlorobenzene	12.480	146	176248	10.3285 ug/L	99
94) 1,4-Dichlorobenzene	12.578	146	176085	10.3281 ug/L	97
95) p-Isopropyltoluene	12.541	119	323183	9.4414 ug/L	100

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL5.D
Acq On : 16 Oct 2014 3:01 pm
Operator :
Sample : SEQ-CAL5
Misc : 1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 17 11:06:51 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:06:40 2014
Response via : Initial Calibration

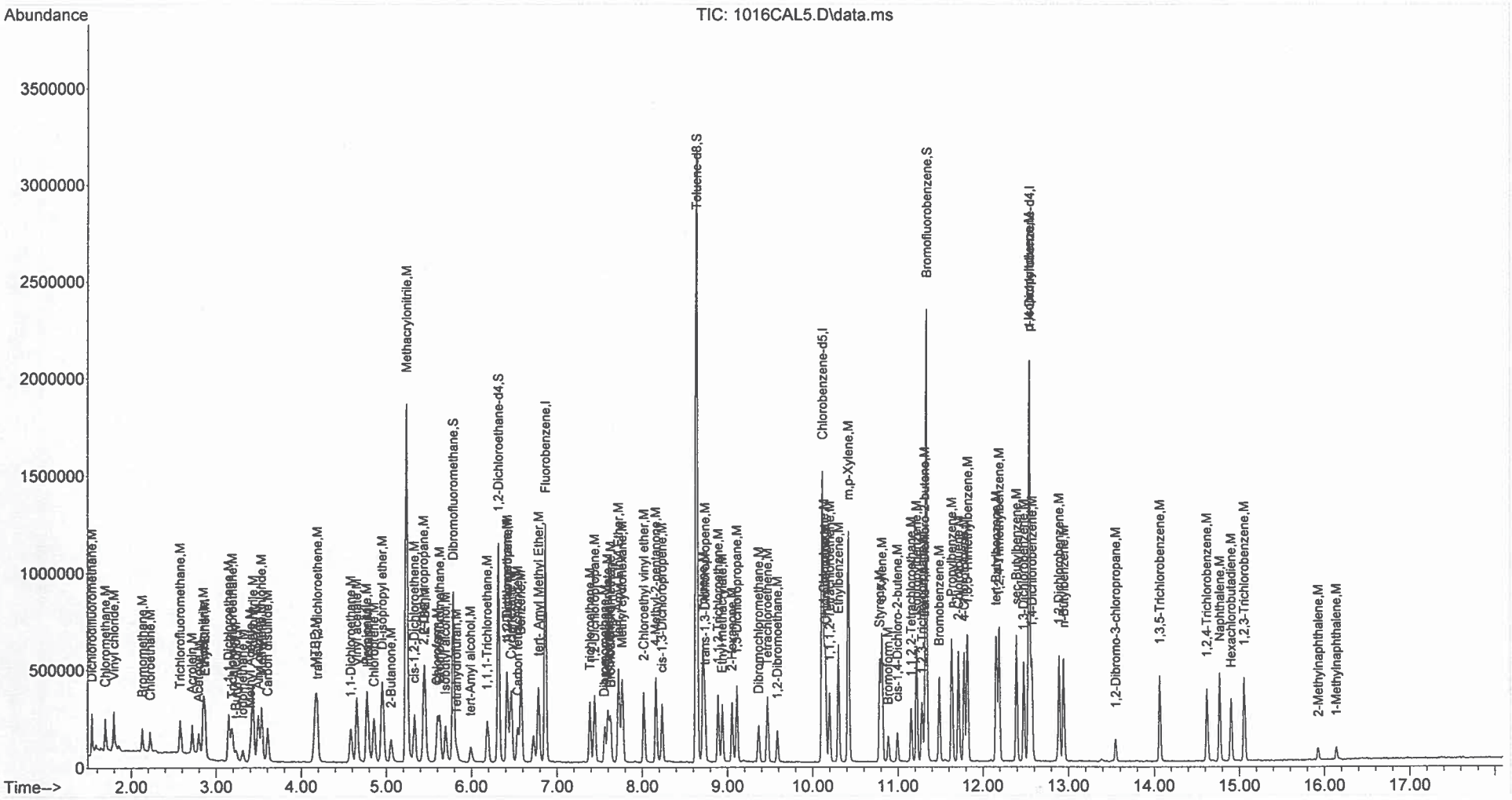
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
96)	1,2-Dichlorobenzene	12.894	146	185280	10.5207	ug/L	97
97)	n-Butylbenzene	12.949	91	248735	8.7327	ug/L	99
98)	1,2-Dibromo-3-chloropr...	13.551	157	21510	8.1303	ug/L	93
99)	1,3,5-Trichlorobenzene	14.068	180	117911	9.0205	ug/L	99
100)	1,2,4-Trichlorobenzene	14.622	180	98972	8.5420	ug/L	96
101)	Naphthalene	14.774	128	305753	8.0546	ug/L	100
102)	Hexachlorobutadiene	14.908	225	56443	10.9942	ug/L	95
103)	1,2,3-Trichlorobenzene	15.060	180	111849	9.2867	ug/L	99
104)	2-Methylnaphthalene	15.930	142	25771	0.5482	ug/L	93
105)	1-Methylnaphthalene	16.143	142	23931	0.5137	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL5.D
Acq On : 16 Oct 2014 3:01 pm
Operator :
Sample : SEQ-CAL5
Misc : 1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 17 11:06:51 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:06:40 2014
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL6.D
Acq On : 16 Oct 2014 3:26 pm
Operator :
Sample : SEQ-CAL6
Misc : 1
ALS Vial : 9 Sample Multiplier: 1

10/22/14

Quant Time: Oct 17 11:05:46 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:05:34 2014
Response via : Initial Calibration

SP
10/22/14

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	6.865	96	913602	30.00	ug/L	0.00
59) Chlorobenzene-d5	10.114	82	350957	30.00	ug/L	0.00
81) 1,4-Dichlorobenzene-d4	12.547	152	349408	30.00	ug/L	# 0.00
System Monitoring Compounds						
37) Dibromofluoromethane	5.788	111	579712	73.59	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 245.30%#			
41) 1,2-Dichloroethane-d4	6.318	102	144715	76.23	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 254.10%#			
60) Toluene-d8	8.642	98	2029461	72.70	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 242.33%#			
80) Bromofluorobenzene	11.337	95	798376	76.82	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 256.07%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.536	85	447406	62.3155	ug/L	99
3) Chloromethane	1.694	50	617236	51.8877	ug/L	100
4) Vinyl chloride	1.798	62	352782	45.7180	ug/L	99
5) Bromomethane	2.132	94	196522	47.1300	ug/L	98
6) Chloroethane	2.223	64	260865	48.8230	ug/L	98
7) Trichlorofluoromethane	2.582	101	594798	56.1606	ug/L	99
8) Acrolein	2.716	56	498863	289.7435	ug/L	97
9) Acetone	2.795	43	495556	94.9218	ug/L	99
10) Acetonitrile	2.850	41	1135822	486.6120	ug/L	99
11) Ethyl Ether	2.868	59	391372	44.8084	ug/L	99
12) 1,1-Dichloroethene	3.148	96	359416	50.8210	ug/L	99
13) Trichlorotrifluoroethane	3.191	101	384668	56.2753	ug/L	100
14) Iodomethane	3.312	142	435545	53.6602	ug/L	97
15) t-Butyl Alcohol	3.233	59	309430	219.2072	ug/L	100
16) Methyl Acetate	3.404	43	636680	43.1179	ug/L	100
17) Acrylonitrile	3.434	53	1476360	262.6896	ug/L	98
18) Allyl chloride	3.495	76	202624	47.7161	ug/L	97
19) Methylene chloride	3.538	84	445553	51.7531	ug/L	99
20) Carbon disulfide	3.611	76	1117328	53.4946	ug/L	100
21) trans-1,2-dichloroethene	4.188	96	394318	52.4451	ug/L	99
22) MTBE	4.170	73	1267431	47.7705	ug/L	98
23) 1,1-Dichloroethane	4.590	63	874917	50.2381	ug/L	99
24) Vinyl acetate	4.657	43	2786534	94.0778	ug/L	100
25) Propionitrile	4.772	54	1112739	505.4835	ug/L	99
26) Hexane	4.785	57	479594	51.3659	ug/L	98
27) Chloroprene	4.858	53	838884	49.9577	ug/L	99
28) Di-isopropyl ether	4.955	45	2162274	52.5511	ug/L	99
29) 2-Butanone	5.052	43	802017	98.8942	ug/L	99
30) Methacrylonitrile	5.241	41	5230270	537.1124	ug/L	99
31) cis-1,2-Dichloroethene	5.332	96	450442	51.9008	ug/L	97
32) 2,2-Dichloropropane	5.442	77	580269	47.0450	ug/L	98
33) ETBE	5.454	59	1588207	48.2759	ug/L	99
34) Chloroform	5.606	83	781292	51.0922	ug/L	98
35) Bromochloromethane	5.636	128	230151	49.6901	ug/L	99
36) Isobutyl alcohol	5.697	42	393917	898.9371	ug/L	98
38) Tetrahydrofuran	5.819	72	69893	46.4517	ug/L	93

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL6.D
Acq On : 16 Oct 2014 3:26 pm
Operator :
Sample : SEQ-CAL6
Misc : 1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 17 11:05:46 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:05:34 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
39) tert-Amyl alcohol	5.995	59	233811	212.4849	ug/L		96
40) 1,1,1-Trichloroethane	6.190	97	653496	52.7679	ug/L		100
42) 1,2-Dichloroethane	6.415	62	771808	52.5899	ug/L		100
43) 1,1-Dichloropropene	6.421	75	544652	50.8596	ug/L		99
44) Cyclohexane	6.464	56	868420	49.2001	ug/L		100
45) Carbon tetrachloride	6.543	117	535024	50.1649	ug/L		100
46) Benzene	6.579	78	1721386	52.6905	ug/L		100
47) tert- Amyl Methyl Ether	6.786	73	1236502	48.1879	ug/L		99
48) Trichloroethene	7.388	95	444702	54.2882	ug/L		99
49) 1,2-Dichloropropane	7.443	63	510828	49.2637	ug/L		98
50) Dibromomethane	7.565	93	312090	51.7644	ug/L		100
51) Methyl methacrylate	7.601	41	680490	48.4310	ug/L		100
52) 1,4-Dioxane	7.607	88	140649	1021.4649	ug/L		98
53) Bromodichloromethane	7.632	83	595563	50.7060	ug/L		99
54) tert- Amyl Ethyl Ether	7.723	59	1254167	47.9355	ug/L		100
55) Methyl cyclohexane	7.766	83	662578	52.4263	ug/L		99
56) 2-Chloroethyl vinyl ether	8.021	63	612566	79.3250	ug/L		100
57) 4-Methyl-2-pentanone	8.161	43	1555273	98.9964	ug/L		99
58) cis-1,3-Dichloropropene	8.234	75	643262	48.9777	ug/L		99
61) trans-1,3-Dichloropropene	8.739	75	630168	48.4601	ug/L		98
62) Toluene	8.715	92	1035839	52.6927	ug/L		100
63) 1,1,2-Trichloroethane	8.891	83	359313	52.9998	ug/L		98
64) Ethyl methacrylate	8.940	69	593049	48.4847	ug/L		100
65) 2-Hexanone	9.055	43	1073912	102.4212	ug/L		99
66) 1,3-Dichloropropane	9.110	76	744111	55.0917	ug/L		100
67) Dibromochloromethane	9.366	129	440673	51.1213	ug/L		99
68) Tetrachloroethene	9.469	166	424242	55.1863	ug/L		99
69) 1,2-Dibromoethane	9.585	107	445668	52.7218	ug/L		99
70) 1-Chlorohexane	10.132	91	463716	48.1435	ug/L		96
71) Chlorobenzene	10.150	112	1191621	55.7627	ug/L		100
72) 1,1,1,2-Tetrachloroethane	10.199	131	394368	50.0646	ug/L		99
73) Ethylbenzene	10.302	91	1938031	55.4557	ug/L		99
74) m,p-Xylene	10.418	91	3094578	111.5576	ug/L		99
75) Styrene	10.789	104	1211552	53.3695	ug/L		99
76) o-Xylene	10.813	91	1687159	55.7680	ug/L		99
77) Bromoform	10.893	173	283233	50.6161	ug/L		100
78) Isopropylbenzene	11.221	105	1782901	55.2838	ug/L		99
79) 1,2,3-Trichloropropane	11.282	110	194587	53.4172	ug/L		94
82) cis-1,4-Dichloro-2-butene	10.996	53	198190	38.1608	ug/L		97
83) 1,1,2,2-Tetrachloroethane	11.160	83	578004	47.6826	ug/L		99
84) trans-1,4-Dichloro-2-b...	11.318	53	207390	43.1449	ug/L	#	1
85) Bromobenzene	11.489	156	501101	48.4325	ug/L		98
86) n-Propylbenzene	11.635	91	2307466	53.4403	ug/L		99
87) 2-Chlorotoluene	11.714	91	1429961	50.5362	ug/L		100
88) 4-Chlorotoluene	11.781	91	1445555	50.9800	ug/L		100
89) 1,3,5-Trimethylbenzene	11.817	105	1741804	51.5898	ug/L		99
90) tert-Butylbenzene	12.164	119	1682946	49.7863	ug/L		99
91) 1,2,4-Trimethylbenzene	12.194	105	1834377	51.2486	ug/L		100
92) sec-Butylbenzene	12.395	105	2143186	53.4745	ug/L		99
93) 1,3-Dichlorobenzene	12.480	146	948739	54.3633	ug/L		99
94) 1,4-Dichlorobenzene	12.578	146	956638	54.9618	ug/L		99
95) p-Isopropyltoluene	12.541	119	1851054	52.5575	ug/L		99

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL6.D
Acq On : 16 Oct 2014 3:26 pm
Operator :
Sample : SEQ-CAL6
Misc : 1
ALS Vial : 9 Sample Multiplier: 1

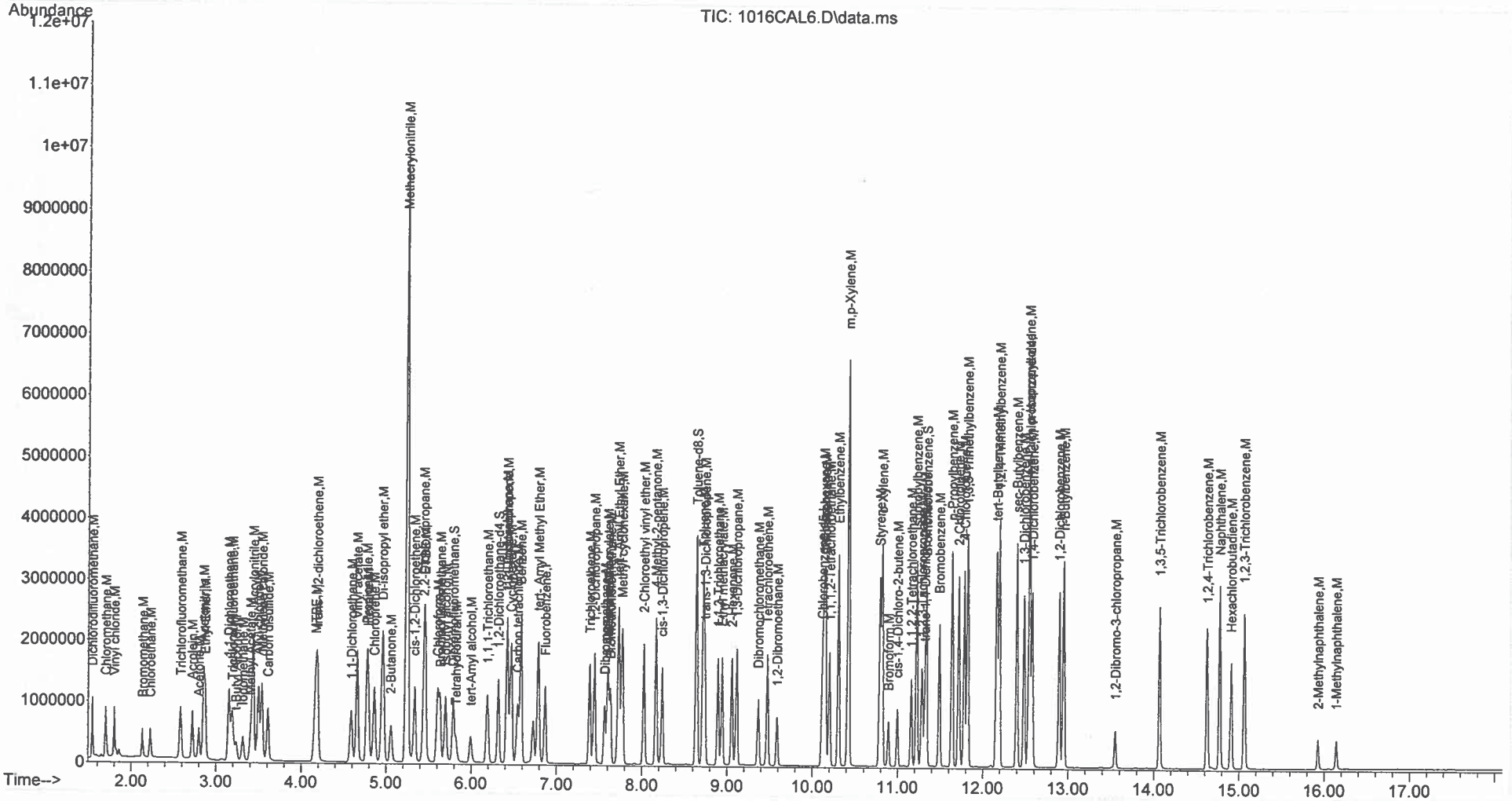
Quant Time: Oct 17 11:05:46 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:05:34 2014
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
96)	1,2-Dichlorobenzene	12.894	146	960554	53.3199	ug/L	99
97)	n-Butylbenzene	12.949	91	1613611	55.1357	ug/L	99
98)	1,2-Dibromo-3-chloropr...	13.551	157	122956	44.7511	ug/L	94
99)	1,3,5-Trichlorobenzene	14.068	180	676306	49.9149	ug/L	100
100)	1,2,4-Trichlorobenzene	14.628	180	613480	51.0667	ug/L	100
101)	Naphthalene	14.774	128	1972638	49.7160	ug/L	100
102)	Hexachlorobutadiene	14.908	225	277996	53.1074	ug/L	99
103)	1,2,3-Trichlorobenzene	15.060	180	651399	52.4837	ug/L	99
104)	2-Methylnaphthalene	15.930	142	196140	3.3449	ug/L	95
105)	1-Methylnaphthalene	16.143	142	181979	3.2051	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL6.D
Acq On : 16 Oct 2014 3:26 pm
Operator :
Sample : SEQ-CAL6
Misc : 1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 17 11:05:46 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:05:34 2014
Response via : Initial Calibration



101614W3.M Tue Oct 21 13:08:57 2014

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL7.D
Acq On : 16 Oct 2014 3:51 pm
Operator :
Sample : SEQ-CAL7
Misc : 1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 17 11:04:38 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:04:28 2014
Response via : Initial Calibration

m 10/21/14

SP 10/22/14

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	6.865	96	928682	30.00	ug/L	0.00
59) Chlorobenzene-d5	10.114	82	373192	30.00	ug/L	0.00
81) 1,4-Dichlorobenzene-d4	12.547	152	347318	30.00	ug/L	# 0.00
System Monitoring Compounds						
37) Dibromofluoromethane	5.788	111	246405	30.87	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 102.90%			
41) 1,2-Dichloroethane-d4	6.318	102	57178	29.49	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 98.30%			
60) Toluene-d8	8.635	98	878365	29.49	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 98.30%			
80) Bromofluorobenzene	11.337	95	339717	30.87	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 102.90%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.536	85	904729	125.9207	ug/L	98
3) Chloromethane	1.694	50	1260660	104.5329	ug/L	100
4) Vinyl chloride	1.798	62	768734	97.0319	ug/L	99
5) Bromomethane	2.132	94	433655	101.1445	ug/L	98
6) Chloroethane	2.223	64	530204	96.1462	ug/L	99
7) Trichlorofluoromethane	2.576	101	1183608	110.4564	ug/L	99
8) Acrolein	2.716	56	1055970	637.2987	ug/L	98
9) Acetone	2.795	43	990498	186.5881	ug/L	97
10) Acetonitrile	2.850	41	2276191	950.8212	ug/L	99
11) Ethyl Ether	2.868	59	833958	92.1664	ug/L	98
12) 1,1-Dichloroethene	3.148	96	726417	100.7350	ug/L	99
13) Trichlorotrifluoroethane	3.185	101	768123	110.5078	ug/L	99
14) Iodomethane	3.312	142	942854	112.5540	ug/L	98
15) t-Butyl Alcohol	3.233	59	624951	424.4348	ug/L	97
16) Methyl Acetate	3.404	43	1271120	83.9372	ug/L	100
17) Acrylonitrile	3.434	53	2976891	518.9869	ug/L	99
18) Allyl chloride	3.495	76	408944	93.6533	ug/L	98
19) Methylene chloride	3.537	84	889308	101.7522	ug/L	99
20) Carbon disulfide	3.604	76	2295023	107.9028	ug/L	100
21) trans-1,2-dichloroethene	4.188	96	809351	105.2397	ug/L	99
22) MTBE	4.170	73	2618701	95.8253	ug/L	99
23) 1,1-Dichloroethane	4.590	63	1784963	99.6395	ug/L	99
24) Vinyl acetate	4.657	43	5801184	188.9271	ug/L	99
25) Propionitrile	4.772	54	2272883	1005.8085	ug/L	99
26) Hexane	4.785	57	988577	101.6696	ug/L	99
27) Chloroprene	4.858	53	1741998	100.5021	ug/L	99
28) Di-isopropyl ether	4.955	45	4352569	103.6547	ug/L	99
29) 2-Butanone	5.052	43	1638893	196.7871	ug/L	100
30) Methacrylonitrile	5.241	41	10304409	1034.6308	ug/L	93
31) cis-1,2-Dichloroethene	5.338	96	911001	102.7500	ug/L	100
32) 2,2-Dichloropropane	5.442	77	1165819	91.4325	ug/L	100
33) ETBE	5.454	59	3226984	94.6272	ug/L	98
34) Chloroform	5.606	83	1592060	102.3577	ug/L	98
35) Bromochloromethane	5.630	128	454594	96.1394	ug/L	98
36) Isobutyl alcohol	5.697	42	830061	1805.7034	ug/L	96
38) Tetrahydrofuran	5.819	72	136640	87.8046	ug/L	97

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL7.D
Acq On : 16 Oct 2014 3:51 pm
Operator :
Sample : SEQ-CAL7
Misc : 1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 17 11:04:38 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:04:28 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
39) tert-Amyl alcohol	5.995	59	504070	438.3012	ug/L	100
40) 1,1,1-Trichloroethane	6.190	97	1318245	103.8974	ug/L	99
42) 1,2-Dichloroethane	6.415	62	1543388	102.7615	ug/L	100
43) 1,1-Dichloropropene	6.421	75	1146132	104.4469	ug/L	99
44) Cyclohexane	6.464	56	1779506	97.7994	ug/L	100
45) Carbon tetrachloride	6.543	117	1117028	101.7084	ug/L	98
46) Benzene	6.579	78	3481408	104.2965	ug/L	99
47) tert- Amyl Methyl Ether	6.786	73	2549526	96.1298	ug/L	99
48) Trichloroethene	7.388	95	899385	107.9470	ug/L	100
49) 1,2-Dichloropropane	7.443	63	1050954	98.7143	ug/L	98
50) Dibromomethane	7.565	93	629232	102.6196	ug/L	99
51) Methyl methacrylate	7.595	41	1420734	98.0888	ug/L	100
52) 1,4-Dioxane	7.607	88	284334	2014.4524	ug/L	97
53) Bromodichloromethane	7.632	83	1247971	103.9843	ug/L	98
54) tert- Amyl Ethyl Ether	7.723	59	2633054	97.5875	ug/L	99
55) Methyl cyclohexane	7.766	83	1356860	105.0371	ug/L	100
56) 2-Chloroethyl vinyl ether	8.021	63	1210694	146.1489	ug/L	100
57) 4-Methyl-2-pentanone	8.161	43	3249737	201.9592	ug/L	98
58) cis-1,3-Dichloropropene	8.234	75	1368291	101.3638	ug/L	99
61) trans-1,3-Dichloropropene	8.739	75	1348807	96.1503	ug/L	98
62) Toluene	8.715	92	2131528	101.1618	ug/L	97
63) 1,1,2-Trichloroethane	8.891	83	726626	100.4078	ug/L	99
64) Ethyl methacrylate	8.940	69	1263872	95.7143	ug/L	99
65) 2-Hexanone	9.055	43	2255463	199.8882	ug/L	98
66) 1,3-Dichloropropane	9.110	76	1490401	103.2797	ug/L	99
67) Dibromochloromethane	9.366	129	950425	102.8221	ug/L	99
68) Tetrachloroethene	9.469	166	876243	106.5318	ug/L	99
69) 1,2-Dibromoethane	9.585	107	914303	101.1819	ug/L	98
70) 1-Chlorohexane	10.132	91	1025001	98.6416	ug/L	99
71) Chlorobenzene	10.150	112	2448105	107.3206	ug/L	99
72) 1,1,1,2-Tetrachloroethane	10.199	131	836065	98.8132	ug/L	99
73) Ethylbenzene	10.302	91	4012504	107.4107	ug/L	99
74) m,p-Xylene	10.418	91	6286037	212.4936	ug/L	97
75) Styrene	10.789	104	2580720	106.3648	ug/L	99
76) o-Xylene	10.813	91	3437722	106.7888	ug/L	98
77) Bromoform	10.892	173	617287	102.4733	ug/L	99
78) Isopropylbenzene	11.221	105	3759199	109.3001	ug/L	99
79) 1,2,3-Trichloropropane	11.282	110	387776	99.7458	ug/L	99
82) cis-1,4-Dichloro-2-butene	10.996	53	433636	79.8693	ug/L	98
83) 1,1,2,2-Tetrachloroethane	11.160	83	1196091	97.9233	ug/L	99
84) trans-1,4-Dichloro-2-b...	11.318	53	439226	88.2625	ug/L	88
85) Bromobenzene	11.489	156	1057262	102.2615	ug/L	99
86) n-Propylbenzene	11.635	91	4759500	110.1812	ug/L	98
87) 2-Chlorotoluene	11.714	91	2981308	105.4926	ug/L	99
88) 4-Chlorotoluene	11.781	91	3034797	106.9465	ug/L	99
89) 1,3,5-Trimethylbenzene	11.817	105	3613512	107.0673	ug/L	99
90) tert-Butylbenzene	12.164	119	3497688	103.4391	ug/L	100
91) 1,2,4-Trimethylbenzene	12.194	105	3781532	105.7979	ug/L	98
92) sec-Butylbenzene	12.395	105	4467987	111.7117	ug/L	97
93) 1,3-Dichlorobenzene	12.480	146	1975296	113.5695	ug/L	100
94) 1,4-Dichlorobenzene	12.578	146	1995690	115.2532	ug/L	99
95) p-Isopropyltoluene	12.541	119	3871168	109.9940	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL7.D
Acq On : 16 Oct 2014 3:51 pm
Operator :
Sample : SEQ-CAL7
Misc : 1
ALS Vial : 10 Sample Multiplier: 1

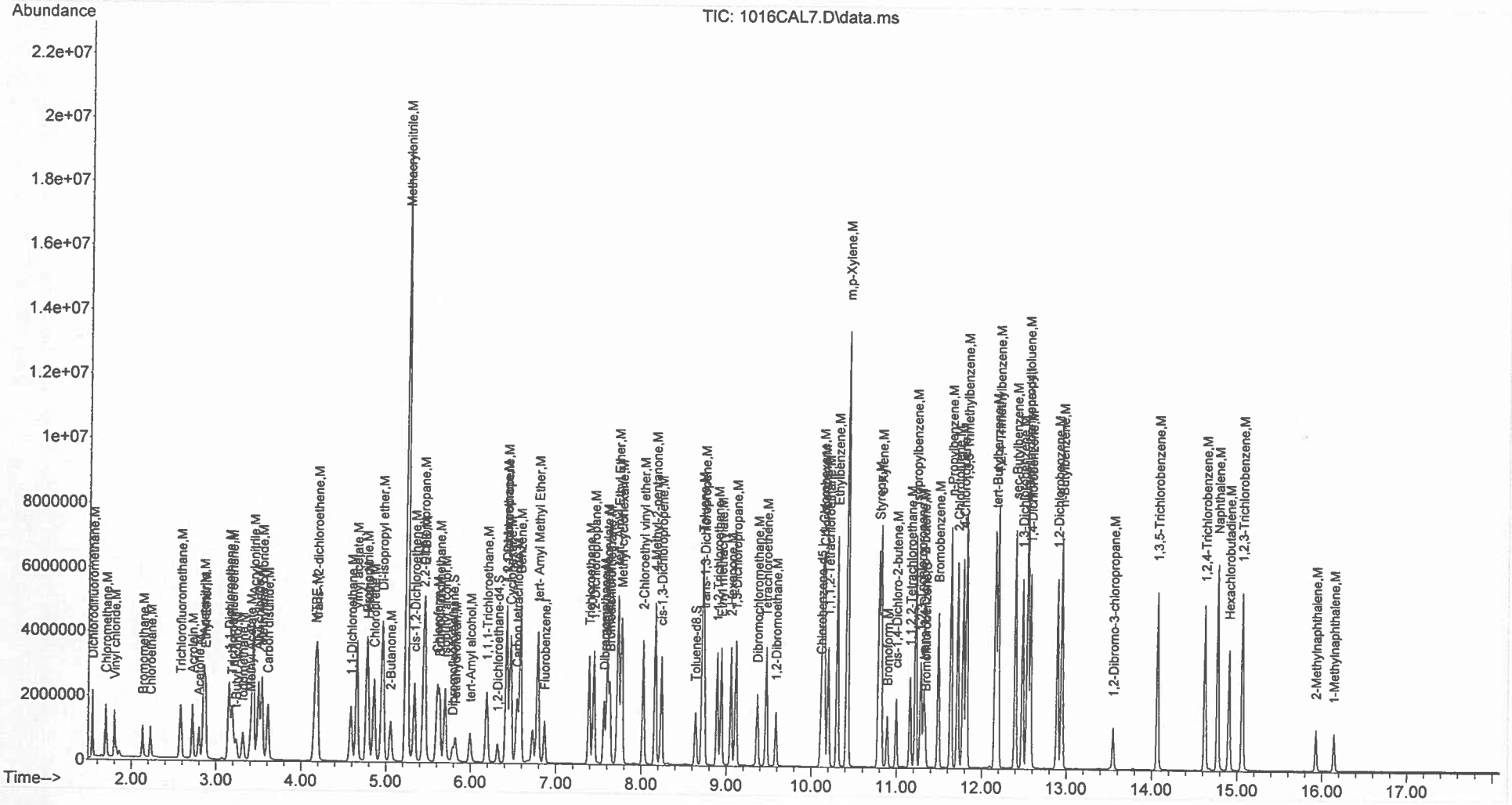
Quant Time: Oct 17 11:04:38 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:04:28 2014
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
96)	1,2-Dichlorobenzene	12.894	146	1974747	110.0110	ug/L	99
97)	n-Butylbenzene	12.949	91	3440585	117.5664	ug/L	98
98)	1,2-Dibromo-3-chloropr...	13.551	157	271077	97.5895	ug/L	99
99)	1,3,5-Trichlorobenzene	14.068	180	1463619	107.4820	ug/L	99
100)	1,2,4-Trichlorobenzene	14.628	180	1366822	113.0163	ug/L	100
101)	Naphthalene	14.774	128	4346239	108.1247	ug/L	100
102)	Hexachlorobutadiene	14.908	225	594459	114.3497	ug/L	99
103)	1,2,3-Trichlorobenzene	15.060	180	1419873	114.1205	ug/L	99
104)	2-Methylnaphthalene	15.930	142	504841	7.1665	ug/L	99
105)	1-Methylnaphthalene	16.143	142	459209	6.8592	ug/L	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL7.D
Acq On : 16 Oct 2014 3:51 pm
Operator :
Sample : SEQ-CAL7
Misc : 1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 17 11:04:38 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:04:28 2014
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL8.D
Acq On : 16 Oct 2014 4:16 pm
Operator :
Sample : SEQ-CAL8
Misc : 1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 17 11:03:27 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:03:13 2014
Response via : Initial Calibration

10/10/2014

SP 10/22/14

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	6.865	96	935413	30.00	ug/L	0.00
59) Chlorobenzene-d5	10.114	82	373690	30.00	ug/L	0.00
81) 1,4-Dichlorobenzene-d4	12.547	152	365260	30.00	ug/L	# 0.00
System Monitoring Compounds						
37) Dibromofluoromethane	5.789	111	248912	31.15	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 103.83%			
41) 1,2-Dichloroethane-d4	6.318	102	61137	31.62	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 105.40%			
60) Toluene-d8	8.636	98	884659	29.63	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 98.77%			
80) Bromofluorobenzene	11.337	95	347350	31.79	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 105.97%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.536	85	1347897	190.6323	ug/L	100
3) Chloromethane	1.694	50	1963535	163.0859	ug/L	100
4) Vinyl chloride	1.798	62	1110668	138.9827	ug/L	100
5) Bromomethane	2.132	94	685759	157.0988	ug/L	100
6) Chloroethane	2.224	64	817784	145.7731	ug/L	99
7) Trichlorofluoromethane	2.583	101	1802488	168.9994	ug/L	100
8) Acrolein	2.716	56	1722466	1111.6643	ug/L	99
9) Acetone	2.795	43	1461056	273.7722	ug/L	99
10) Acetonitrile	2.850	41	3547120	1469.3123	ug/L	100
11) Ethyl Ether	2.868	59	1269585	137.3530	ug/L	99
12) 1,1-Dichloroethene	3.148	96	1053893	144.4298	ug/L	97
13) Trichlorotrifluoroethane	3.191	101	1108151	158.8079	ug/L	99
14) Iodomethane	3.313	142	1424292	167.1199	ug/L	98
15) t-Butyl Alcohol	3.233	59	1049994	699.4701	ug/L	97
16) Methyl Acetate	3.404	43	1892922	123.1140	ug/L	99
17) Acrylonitrile	3.434	53	4466068	771.3847	ug/L	100
18) Allyl chloride	3.495	76	591896	132.8865	ug/L	98
19) Methylene chloride	3.538	84	1310875	149.1892	ug/L	99
20) Carbon disulfide	3.611	76	3418006	159.4437	ug/L	100
21) trans-1,2-dichloroethene	4.189	96	1208637	155.3279	ug/L	100
22) MTBE	4.170	73	4000097	143.8321	ug/L	99
23) 1,1-Dichloroethane	4.590	63	2702272	148.6763	ug/L	100
24) Vinyl acetate	4.657	43	8774077	279.5659	ug/L	99
25) Propionitrile	4.773	54	3419332	1492.3526	ug/L	100
26) Hexane	4.785	57	1534523	154.3740	ug/L	100
27) Chloroprene	4.858	53	2663602	150.8297	ug/L	100
28) Di-isopropyl ether	4.955	45	6422916	151.3359	ug/L	100
29) 2-Butanone	5.052	43	2468307	291.4918	ug/L	100
30) Methacrylonitrile	5.247	41	14848262	1474.1376	ug/L	95
31) cis-1,2-Dichloroethene	5.338	96	1376300	153.5671	ug/L	100
32) 2,2-Dichloropropane	5.442	77	1755738	135.1652	ug/L	100
33) ETBE	5.454	59	4835527	138.2695	ug/L	99
34) Chloroform	5.606	83	2372926	151.5202	ug/L	99
35) Bromochloromethane	5.636	128	669250	140.1717	ug/L	99
36) Isobutyl alcohol	5.697	42	1312117	2770.4233	ug/L	98
38) Tetrahydrofuran	5.819	72	211079	133.7534	ug/L	95

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL8.D
Acq On : 16 Oct 2014 4:16 pm
Operator :
Sample : SEQ-CAL8
Misc : 1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 17 11:03:27 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:03:13 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
39) tert-Amyl alcohol	5.995	59	784680	662.3961	ug/L	98
40) 1,1,1-Trichloroethane	6.190	97	2007308	156.5360	ug/L	100
42) 1,2-Dichloroethane	6.415	62	2314590	152.2900	ug/L	99
43) 1,1-Dichloropropene	6.421	75	1740243	156.8405	ug/L	99
44) Cyclohexane	6.464	56	2726705	148.0231	ug/L	99
45) Carbon tetrachloride	6.543	117	1704216	152.9613	ug/L	98
46) Benzene	6.586	78	5204761	154.3333	ug/L	99
47) tert- Amyl Methyl Ether	6.786	73	3861766	142.6428	ug/L	100
48) Trichloroethene	7.389	95	1357543	161.9940	ug/L	99
49) 1,2-Dichloropropane	7.443	63	1587761	146.6641	ug/L	99
50) Dibromomethane	7.565	93	942875	152.7377	ug/L	99
51) Methyl methacrylate	7.601	41	2172970	147.3645	ug/L	100
52) 1,4-Dioxane	7.608	88	434776	3042.6181	ug/L	98
53) Bromodichloromethane	7.632	83	1885201	155.5080	ug/L	99
54) tert- Amyl Ethyl Ether	7.723	59	3948457	143.5140	ug/L	100
55) Methyl cyclohexane	7.766	83	2047995	157.3845	ug/L	100
56) 2-Chloroethyl vinyl ether	8.021	63	1804029	205.8114	ug/L	99
57) 4-Methyl-2-pentanone	8.161	43	4878024	299.3418	ug/L	99
58) cis-1,3-Dichloropropene	8.234	75	2069764	150.8299	ug/L	100
61) trans-1,3-Dichloropropene	8.739	75	2081132	146.5057	ug/L	100
62) Toluene	8.715	92	3208127	151.1702	ug/L	99
63) 1,1,2-Trichloroethane	8.891	83	1093544	150.4214	ug/L	99
64) Ethyl methacrylate	8.940	69	1944022	145.3637	ug/L	99
65) 2-Hexanone	9.055	43	3415620	299.5863	ug/L	100
66) 1,3-Dichloropropane	9.110	76	2236726	154.3224	ug/L	100
67) Dibromochloromethane	9.366	129	1450867	155.7316	ug/L	99
68) Tetrachloroethene	9.469	166	1327083	160.8332	ug/L	99
69) 1,2-Dibromoethane	9.585	107	1392663	153.3455	ug/L	100
70) 1-Chlorohexane	10.132	91	1587400	151.2149	ug/L	99
71) Chlorobenzene	10.151	112	3664857	160.1269	ug/L	99
72) 1,1,1,2-Tetrachloroethane	10.199	131	1259220	147.2555	ug/L	99
73) Ethylbenzene	10.303	91	6025566	160.7928	ug/L	99
74) m,p-Xylene	10.418	91	9211062	310.4370	ug/L	98
75) Styrene	10.789	104	3914789	160.5251	ug/L	99
76) o-Xylene	10.814	91	5026465	155.8510	ug/L	100
77) Bromoform	10.893	173	955823	156.6840	ug/L	98
78) Isopropylbenzene	11.221	105	5650698	164.0863	ug/L	99
79) 1,2,3-Trichloropropane	11.282	110	585299	150.6607	ug/L	99
82) cis-1,4-Dichloro-2-butene	10.996	53	653982	108.5832	ug/L	97
83) 1,1,2,2-Tetrachloroethane	11.160	83	1779690	135.6084	ug/L	100
84) trans-1,4-Dichloro-2-b...	11.312	53	654573	119.2943	ug/L	96
85) Bromobenzene	11.489	156	1609447	146.1501	ug/L	99
86) n-Propylbenzene	11.635	91	7049047	153.0893	ug/L	99
87) 2-Chlorotoluene	11.714	91	4397013	145.9887	ug/L	100
88) 4-Chlorotoluene	11.781	91	4521606	149.2151	ug/L	100
89) 1,3,5-Trimethylbenzene	11.817	105	5290631	147.0462	ug/L	99
90) tert-Butylbenzene	12.164	119	5209411	144.6705	ug/L	99
91) 1,2,4-Trimethylbenzene	12.195	105	5599973	147.0205	ug/L	98
92) sec-Butylbenzene	12.395	105	6592698	154.8064	ug/L	99
93) 1,3-Dichlorobenzene	12.481	146	2922386	157.7526	ug/L	100
94) 1,4-Dichlorobenzene	12.578	146	2960234	160.6412	ug/L	99
95) p-Isopropyltoluene	12.541	119	5720091	152.4074	ug/L	99

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL8.D
Acq On : 16 Oct 2014 4:16 pm
Operator :
Sample : SEQ-CAL8
Misc : 1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 17 11:03:27 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:03:13 2014
Response via : Initial Calibration

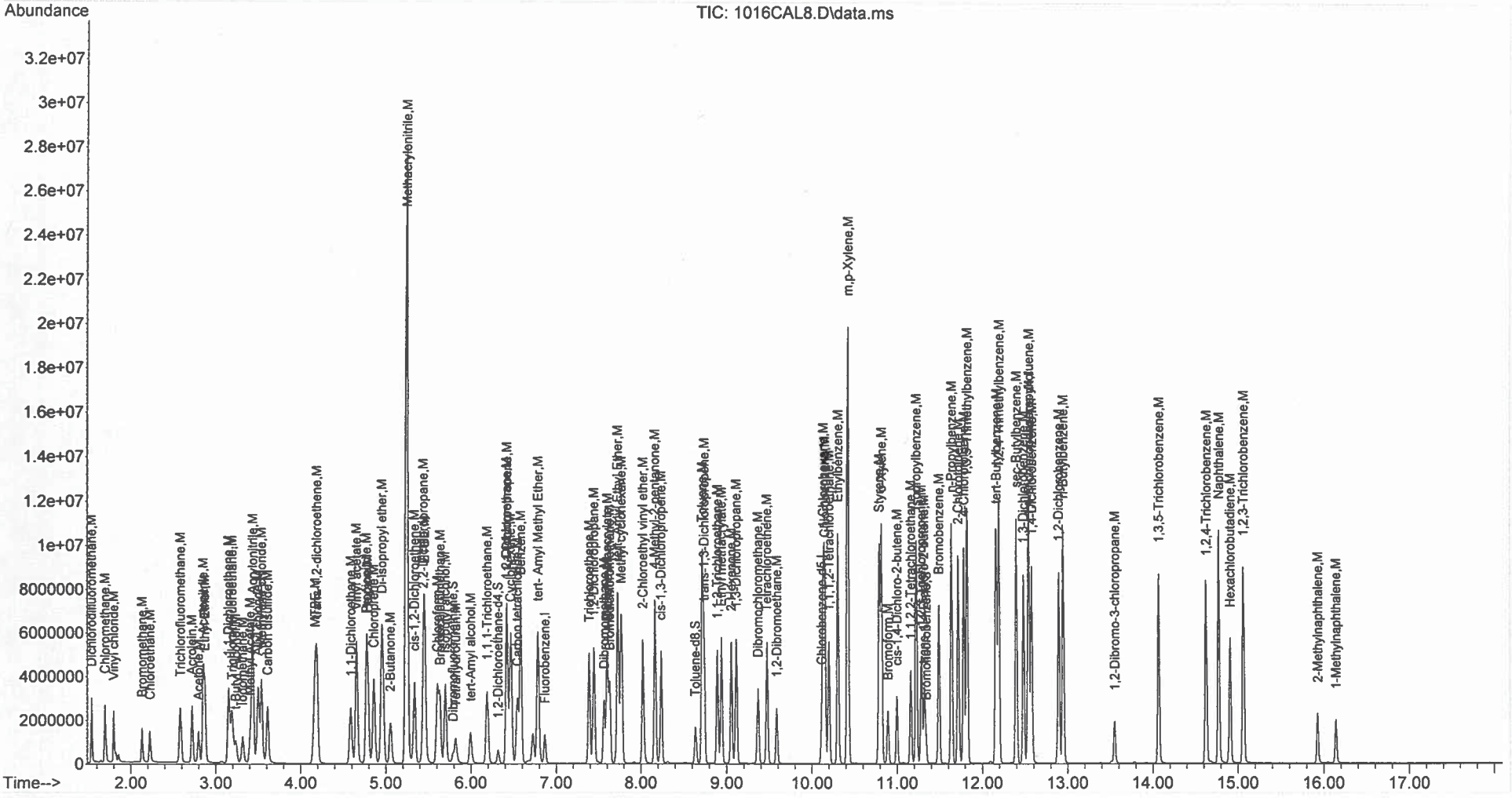
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
96)	1,2-Dichlorobenzene	12.894	146	2945146	154.2533	ug/L	100
97)	n-Butylbenzene	12.943	91	5224681	167.7352	ug/L	99
98)	1,2-Dibromo-3-chloropr...	13.551	157	423585	141.9177	ug/L	98
99)	1,3,5-Trichlorobenzene	14.068	180	2312025	158.3757	ug/L	100
100)	1,2,4-Trichlorobenzene	14.628	180	2275057	176.1124	ug/L	100
101)	Naphthalene	14.774	128	7040745	163.0301	ug/L	100
102)	Hexachlorobutadiene	14.908	225	965685	175.7608	ug/L	99
103)	1,2,3-Trichlorobenzene	15.060	180	2370679	178.9850	ug/L	99
104)	2-Methylnaphthalene	15.930	142	965168	10.9874	ug/L	98
105)	1-Methylnaphthalene	16.143	142	839453	10.1933	ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL8.D
Acq On : 16 Oct 2014 4:16 pm
Operator :
Sample : SEQ-CAL8
Misc : 1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 17 11:03:27 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Fri Oct 17 11:03:13 2014
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL9.D
Acq On : 16 Oct 2014 4:41 pm
Operator :
Sample : SEQ-CAL9
Misc : 1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 17 10:58:26 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Jul 15 13:20:10 2014
Response via : Initial Calibration

10/10/14

SP 10/22/14

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	6.865	96	967536	30.00	ug/L		-0.05
59) Chlorobenzene-d5	10.114	82	380154	30.00	ug/L		-0.04
81) 1,4-Dichlorobenzene-d4	12.547	152	360075	30.00	ug/L	#	-0.04
System Monitoring Compounds							
37) Dibromofluoromethane	5.788	111	254339	30.85	ug/L		-0.05
Spiked Amount 30.000	Range 85 - 115		Recovery = 102.83%				
41) 1,2-Dichloroethane-d4	6.318	102	60503	30.33	ug/L		-0.05
Spiked Amount 30.000	Range 70 - 120		Recovery = 101.10%				
60) Toluene-d8	8.642	98	914719	30.05	ug/L		-0.04
Spiked Amount 30.000	Range 85 - 120		Recovery = 100.17%				
80) Bromofluorobenzene	11.337	95	357607	32.38	ug/L		-0.04
Spiked Amount 30.000	Range 75 - 120		Recovery = 107.93%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.536	85	1823447	253.9789	ug/L		99
3) Chloromethane	1.694	50	2670003	214.7480	ug/L		99
4) Vinyl chloride	1.798	62	1451918	175.8257	ug/L		100
5) Bromomethane	2.132	94	985542	215.2579	ug/L		100
6) Chloroethane	2.223	64	1076992	182.6402	ug/L		98
7) Trichlorofluoromethane	2.582	101	2445066	223.0726	ug/L		100
8) Acrolein	2.716	56	2333355	1566.4062	ug/L		96
9) Acetone	2.795	43	1942746	347.8101	ug/L		97
10) Acetonitrile	2.850	41	4517001	1784.0273	ug/L		99
11) Ethyl Ether	2.868	59	1637687	167.0630	ug/L		94
12) 1,1-Dichloroethene	3.148	96	1542130	204.3720	ug/L		93
13) Trichlorotrifluoroethane	3.185	101	1572582	218.6570	ug/L		100
14) Iodomethane	3.312	142	1937006	217.2836	ug/L		97
15) t-Butyl Alcohol	3.233	59	1397716	884.4370	ug/L	#	90
16) Methyl Acetate	3.404	43	2578356	160.4494	ug/L		100
17) Acrylonitrile	3.434	53	6072115	1007.1426	ug/L		99
18) Allyl chloride	3.495	76	797822	171.2446	ug/L		95
19) Methylene chloride	3.537	84	1814008	199.1738	ug/L		99
20) Carbon disulfide	3.604	76	4760227	214.2272	ug/L		100
21) trans-1,2-dichloroethene	4.188	96	1678635	207.6008	ug/L		94
22) MTBE	4.170	73	5549469	190.4017	ug/L		96
23) 1,1-Dichloroethane	4.584	63	3673148	193.1259	ug/L		99
24) Vinyl acetate	4.657	43	11951037	361.9051	ug/L		99
25) Propionitrile	4.772	54	4641298	1934.9669	ug/L		99
26) Hexane	4.785	57	2101383	200.4156	ug/L		97
27) Chloroprene	4.858	53	3671733	198.4058	ug/L		99
28) Di-isopropyl ether	4.955	45	8920621	202.1523	ug/L		99
29) 2-Butanone	5.052	43	3374068	380.3144	ug/L		100
30) Methacrylonitrile	5.247	41	18648375	1773.8283	ug/L		96
31) cis-1,2-Dichloroethene	5.338	96	1889204	202.3629	ug/L		95
32) 2,2-Dichloropropane	5.442	77	2411322	177.0035	ug/L		99
33) ETBE	5.454	59	6761062	183.3501	ug/L		95
34) Chloroform	5.606	83	3238962	199.1387	ug/L		100
35) Bromochloromethane	5.636	128	904530	181.9303	ug/L		99
36) Isobutyl alcohol	5.697	42	1866434	3717.1664	ug/L		96
38) Tetrahydrofuran	5.819	72	293510	176.9666	ug/L		99

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL9.D
Acq On : 16 Oct 2014 4:41 pm
Operator :
Sample : SEQ-CAL9
Misc : 1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 17 10:58:26 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Jul 15 13:20:10 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
39) tert-Amyl alcohol	5.995	59	1109756	882.7899	ug/L		94
40) 1,1,1-Trichloroethane	6.190	97	2774104	207.9515	ug/L		98
42) 1,2-Dichloroethane	6.415	62	3146945	198.3373	ug/L		100
43) 1,1-Dichloropropene	6.421	75	2437575	211.1763	ug/L		99
44) Cyclohexane	6.464	56	3699480	192.0681	ug/L		97
45) Carbon tetrachloride	6.543	117	2357020	202.3396	ug/L		98
46) Benzene	6.585	78	7115708	202.5904	ug/L		99
47) tert- Amyl Methyl Ether	6.786	73	5337690	187.6668	ug/L		98
48) Trichloroethene	7.388	95	1894784	218.3640	ug/L		98
49) 1,2-Dichloropropane	7.443	63	2195523	193.8303	ug/L		99
50) Dibromomethane	7.559	93	1295651	202.1436	ug/L		99
51) Methyl methacrylate	7.595	41	3034628	196.4955	ug/L		99
52) 1,4-Dioxane	7.607	88	621828	4177.7604	ug/L		96
53) Bromodichloromethane	7.632	83	2585142	204.7428	ug/L		99
54) tert- Amyl Ethyl Ether	7.723	59	5437902	188.0730	ug/L		95
55) Methyl cyclohexane	7.766	83	2814067	208.2140	ug/L		96
56) 2-Chloroethyl vinyl ether	8.021	63	2472991	259.4065	ug/L		99
57) 4-Methyl-2-pentanone	8.161	43	6676864	392.7578	ug/L		98
58) cis-1,3-Dichloropropene	8.234	75	2878694	200.4840	ug/L		98
61) trans-1,3-Dichloropropene	8.739	75	2907819	198.6306	ug/L		99
62) Toluene	8.715	92	4454388	204.7874	ug/L		98
63) 1,1,2-Trichloroethane	8.891	83	1507847	202.5563	ug/L		98
64) Ethyl methacrylate	8.940	69	2744489	199.1487	ug/L		99
65) 2-Hexanone	9.055	43	4683173	399.0122	ug/L		97
66) 1,3-Dichloropropane	9.110	76	3066210	206.5716	ug/L		100
67) Dibromochloromethane	9.366	129	2035219	212.7471	ug/L		100
68) Tetrachloroethene	9.469	166	1835164	217.6354	ug/L		100
69) 1,2-Dibromoethane	9.585	107	1922282	206.5081	ug/L		100
70) 1-Chlorohexane	10.132	91	2247856	208.5562	ug/L		97
71) Chlorobenzene	10.150	112	5025783	214.5296	ug/L		99
72) 1,1,1,2-Tetrachloroethane	10.199	131	1762778	200.4754	ug/L		99
73) Ethylbenzene	10.302	91	8246903	218.5576	ug/L		98
74) m,p-Xylene	10.418	91	12366272	408.1118	ug/L		97
75) Styrene	10.789	104	5416577	217.0868	ug/L		99
76) o-Xylene	10.813	91	6959749	211.7610	ug/L		99
77) Bromoform	10.893	173	1367306	217.5531	ug/L		98
78) Isopropylbenzene	11.221	105	7747761	220.7439	ug/L		99
79) 1,2,3-Trichloropropane	11.288	110	814899	205.9386	ug/L		88
82) cis-1,4-Dichloro-2-butene	10.996	53	909979	146.2908	ug/L		99
83) 1,1,2,2-Tetrachloroethane	11.160	83	2460707	187.3144	ug/L		99
84) trans-1,4-Dichloro-2-b...	11.318	53	918287	162.8387	ug/L	#	81
85) Bromobenzene	11.489	156	2208711	201.8953	ug/L		98
86) n-Propylbenzene	11.635	91	9652098	211.3508	ug/L		99
87) 2-Chlorotoluene	11.714	91	6097693	204.2535	ug/L		100
88) 4-Chlorotoluene	11.781	91	6252976	207.4523	ug/L		98
89) 1,3,5-Trimethylbenzene	11.817	105	7278237	203.5040	ug/L		99
90) tert-Butylbenzene	12.164	119	7190983	201.1496	ug/L		98
91) 1,2,4-Trimethylbenzene	12.194	105	7634543	201.5055	ug/L		99
92) sec-Butylbenzene	12.395	105	8957616	212.0166	ug/L		99
93) 1,3-Dichlorobenzene	12.480	146	4026529	218.9599	ug/L		99
94) 1,4-Dichlorobenzene	12.578	146	4108324	224.8030	ug/L		99
95) p-Isopropyltoluene	12.541	119	7751085	207.5216	ug/L		99

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL9.D
Acq On : 16 Oct 2014 4:41 pm
Operator :
Sample : SEQ-CAL9
Misc : 1
ALS Vial : 12 Sample Multiplier: 1

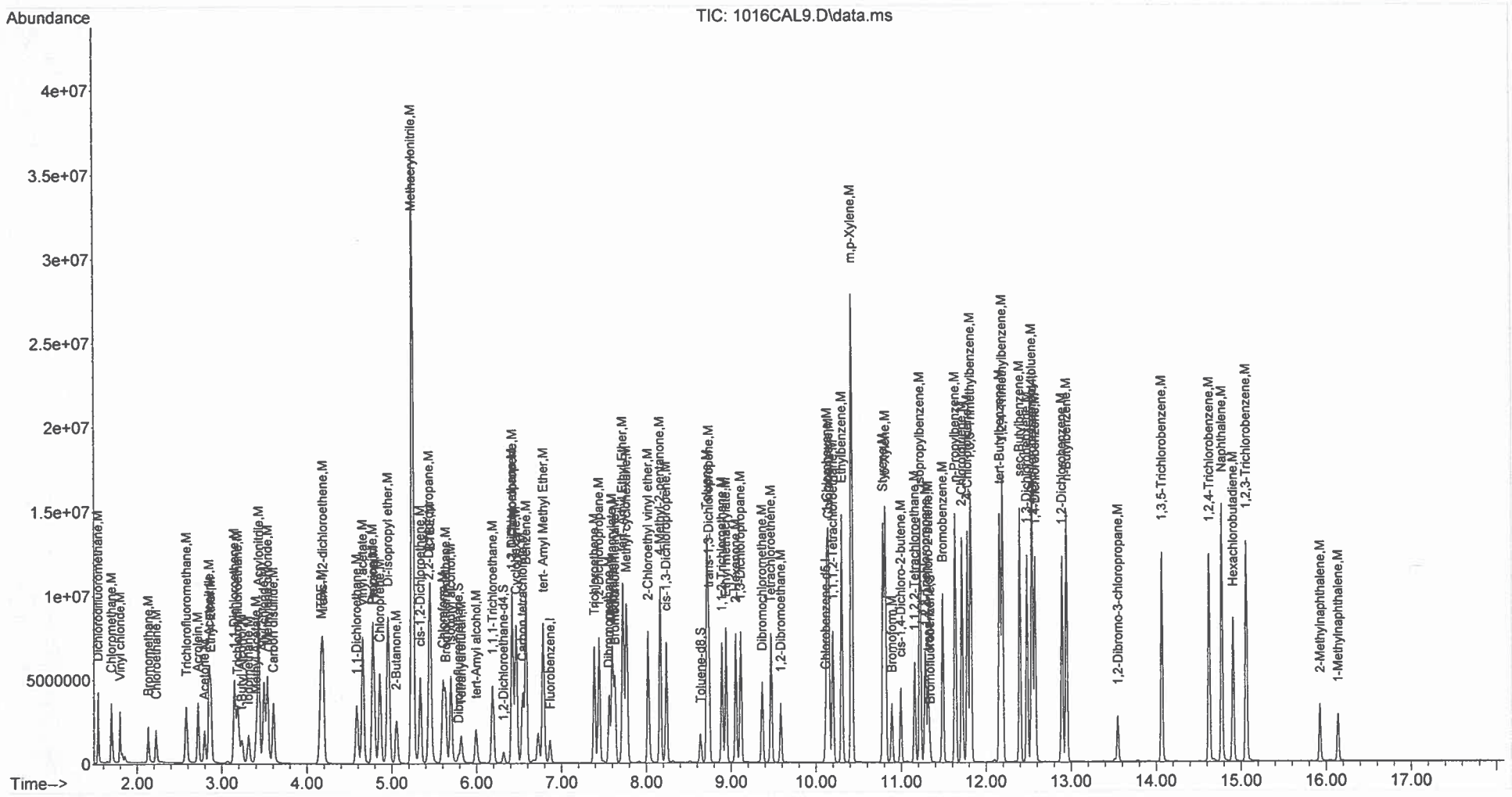
Quant Time: Oct 17 10:58:26 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Jul 15 13:20:10 2014
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
96)	1,2-Dichlorobenzene	12.894	146	4051978	213.8085	ug/L	100
97)	n-Butylbenzene	12.949	91	7121693	229.8575	ug/L	99
98)	1,2-Dibromo-3-chloropr...	13.551	157	581424	193.6022	ug/L	97
99)	1,3,5-Trichlorobenzene	14.068	180	3282753	224.3378	ug/L	100
100)	1,2,4-Trichlorobenzene	14.628	180	3309618	256.5285	ug/L	99
101)	Naphthalene	14.774	128	10043373	231.9166	ug/L	100
102)	Hexachlorobutadiene	14.908	225	1393883	256.2945	ug/L	99
103)	1,2,3-Trichlorobenzene	15.060	180	3494973	265.9355	ug/L	99
104)	2-Methylnaphthalene	15.930	142	1389251	13.8199	ug/L	100
105)	1-Methylnaphthalene	16.143	142	1224258	13.1324	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016CAL9.D
Acq On : 16 Oct 2014 4:41 pm
Operator :
Sample : SEQ-CAL9
Misc : 1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 17 10:58:26 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Jul 15 13:20:10 2014
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016ICV2.D
Acq On : 16 Oct 2014 5:56 pm
Operator :
Sample : SEQ-ICV2
Misc : 1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Oct 21 13:26:47 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

10/24/14

SP 10/22/14

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorobenzene	6.865	96	970947	30.00 ug/L	0.00
59) Chlorobenzene-d5	10.114	82	388508	30.00 ug/L	0.00
81) 1,4-Dichlorobenzene-d4	12.547	152	371740	30.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	5.789	111	257107	28.84 ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 96.13%		
41) 1,2-Dichloroethane-d4	6.318	102	62461	28.91 ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 96.37%		
60) Toluene-d8	8.636	98	932254	30.07 ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 100.23%		
80) Bromofluorobenzene	11.337	95	360363	31.05 ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 103.50%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.536	85	898666	97.1542 ug/L	97
3) Chloromethane	1.694	50	1376762	94.5681 ug/L	100
4) Vinyl chloride	1.798	62	728242	87.4660 ug/L	99
5) Bromomethane	2.132	94	500166	104.0886 ug/L	98
6) Chloroethane	2.224	64	473655	86.0521 ug/L	100
7) Trichlorofluoromethane	2.576	101	1251713	96.8070 ug/L	99
8) Acrolein	2.716	56	1137452	480.5907 ug/L	99
9) Acetone	2.795	43	961547	168.7898 ug/L	97
10) Acetonitrile	2.850	41	2414861	941.3290 ug/L	100
11) Ethyl Ether	2.868	59	929655	104.8028 ug/L	98
12) 1,1-Dichloroethene	3.148	96	687069	88.4482 ug/L	100
13) Trichlorotrifluoroethane	3.185	101	779497	94.8548 ug/L	100
14) Iodomethane	3.313	142	895210	91.7432 ug/L	98
15) t-Butyl Alcohol	3.233	59	636961	471.5916 ug/L	97
16) Methyl Acetate	3.404	43	1226340	85.8459 ug/L	100
17) Acrylonitrile	3.428	53	3095908	484.9287 ug/L	100
18) Allyl chloride	3.495	76	399630	90.5466 ug/L	95
19) Methylene chloride	3.538	84	909039	99.5233 ug/L	99
20) Carbon disulfide	3.604	76	2245847	91.8785 ug/L	100
21) trans-1,2-dichloroethene	4.189	96	797836	90.7545 ug/L	98
22) MTBE	4.170	73	2764991	99.8917 ug/L	99
23) 1,1-Dichloroethane	4.584	63	1833846	95.5693 ug/L	99
24) Vinyl acetate	4.657	43	6000553	210.6990 ug/L	100
25) Propionitrile	4.773	54	2230634	940.9535 ug/L	100
26) Hexane	4.785	57	851422	92.0189 ug/L	99
27) Chloroprene	4.858	53	1750814	101.2743 ug/L	99
28) Di-isopropyl ether	4.955	45	4073301	90.9220 ug/L	100
29) 2-Butanone	5.052	43	1667488	191.8275 ug/L	99
30) Methacrylonitrile	5.241	41	10254985	963.9581 ug/L	100
31) cis-1,2-Dichloroethene	5.332	96	943322	96.0735 ug/L	100
32) 2,2-Dichloropropane	5.442	77	1142977	90.3986 ug/L	100
33) ETBE	5.454	59	3189557	94.7763 ug/L	99
34) Chloroform	5.600	83	1638798	93.1039 ug/L	99
35) Bromochloromethane	5.630	128	463581	89.1219 ug/L	100
36) Isobutyl alcohol	5.697	42	873543	2117.6185 ug/L	95
38) Tetrahydrofuran	5.819	72	145132	91.8434 ug/L	96

* $\frac{687069}{970947} = \frac{0.707627027 \times 30}{0.24001} = 88.446$

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016ICV2.D
Acq On : 16 Oct 2014 5:56 pm
Operator :
Sample : SEQ-ICV2
Misc : 1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Oct 21 13:26:47 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39) tert-Amyl alcohol	5.995	59	540181	549.8176 ug/L	98
40) 1,1,1-Trichloroethane	6.190	97	1378686	96.4913 ug/L	100
42) 1,2-Dichloroethane	6.415	62	1585254	95.4575 ug/L	99
43) 1,1-Dichloropropene	6.421	75	1176465	100.1190 ug/L	100
44) Cyclohexane	6.464	56	1740767	100.2009 ug/L	100
45) Carbon tetrachloride	6.543	117	1137712	102.0992 ug/L	99
46) Benzene	6.579	78	3580247	97.7983 ug/L	100
47) tert- Amyl Methyl Ether	6.786	73	2743254	107.9996 ug/L	99
48) Trichloroethene	7.388	95	926081	96.7491 ug/L	99
49) 1,2-Dichloropropane	7.443	63	1102157	96.2694 ug/L	99
50) Dibromomethane	7.559	93	639377	93.0985 ug/L	98
51) Methyl methacrylate	7.595	41	1512073	109.9432 ug/L	100
52) 1,4-Dioxane	7.607	88	281753	1834.1921 ug/L	99
53) Bromodichloromethane	7.632	83	1239520	94.1035 ug/L	99
54) tert- Amyl Ethyl Ether	7.723	59	2401703	93.7505 ug/L	99
55) Methyl cyclohexane	7.766	83	1322780	101.7113 ug/L	99
56) 2-Chloroethyl vinyl ether	8.021	63	1293436	206.8211 ug/L	100
57) 4-Methyl-2-pentanone	8.161	43	3374757	205.4992 ug/L	99
58) cis-1,3-Dichloropropene	8.234	75	1494008	109.5923 ug/L	99
61) trans-1,3-Dichloropropene	8.739	75	1305048	98.2168 ug/L	98
62) Toluene	8.715	92	2226665	98.8181 ug/L	99
63) 1,1,2-Trichloroethane	8.891	83	778858	96.6140 ug/L	99
64) Ethyl methacrylate	8.940	69	1421221	114.7579 ug/L	99
65) 2-Hexanone	9.055	43	2328007	207.7431 ug/L	99
66) 1,3-Dichloropropane	9.110	76	1589791	99.5047 ug/L	99
67) Dibromochloromethane	9.366	129	985140	103.1951 ug/L	99
68) Tetrachloroethene	9.469	166	903015	101.1613 ug/L	99
69) 1,2-Dibromoethane	9.585	107	956028	99.6128 ug/L	98
70) 1-Chlorohexane	10.132	91	1135889	114.0100 ug/L	99
71) Chlorobenzene	10.150	112	2492458	99.5145 ug/L	99
72) 1,1,1,2-Tetrachloroethane	10.199	131	880128	100.5056 ug/L	99
73) Ethylbenzene	10.303	91	4205784	107.6406 ug/L	99
74) m,p-Xylene	10.418	91	6448788	208.5388 ug/L	100
75) Styrene	10.789	104	2809449	117.9331 ug/L	98
76) o-Xylene	10.814	91	3497057	105.0304 ug/L	98
77) Bromoform	10.893	173	652571	107.4598 ug/L	100
78) Isopropylbenzene	11.221	105	4045615	115.2324 ug/L	100
79) 1,2,3-Trichloropropane	11.282	110	405207	92.8345 ug/L	99
82) cis-1,4-Dichloro-2-butene	10.996	53	493882	118.2583 ug/L	99
83) 1,1,2,2-Tetrachloroethane	11.160	83	1220147	94.1080 ug/L	99
84) trans-1,4-Dichloro-2-b...	11.318	53	475793	107.8628 ug/L	98
85) Bromobenzene	11.489	156	1073970	98.3824 ug/L	99
86) n-Propylbenzene	11.635	91	4789240	107.4830 ug/L	100
87) 2-Chlorotoluene	11.714	91	2966432	100.5320 ug/L	100
88) 4-Chlorotoluene	11.781	91	3140315	109.2688 ug/L	99
89) 1,3,5-Trimethylbenzene	11.817	105	3772671	113.6306 ug/L	100
90) tert-Butylbenzene	12.164	119	3608654	108.3470 ug/L	98
91) 1,2,4-Trimethylbenzene	12.195	105	3804307	109.6703 ug/L	99
92) sec-Butylbenzene	12.395	105	4469098	109.6788 ug/L	99
93) 1,3-Dichlorobenzene	12.480	146	2007020	102.8686 ug/L	100
94) 1,4-Dichlorobenzene	12.578	146	2070070	103.4086 ug/L	100
95) p-Isopropyltoluene	12.541	119	3939194	112.7085 ug/L	99

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016ICV2.D
Acq On : 16 Oct 2014 5:56 pm
Operator :
Sample : SEQ-ICV2
Misc : 1
ALS Vial : 15 Sample Multiplier: 1

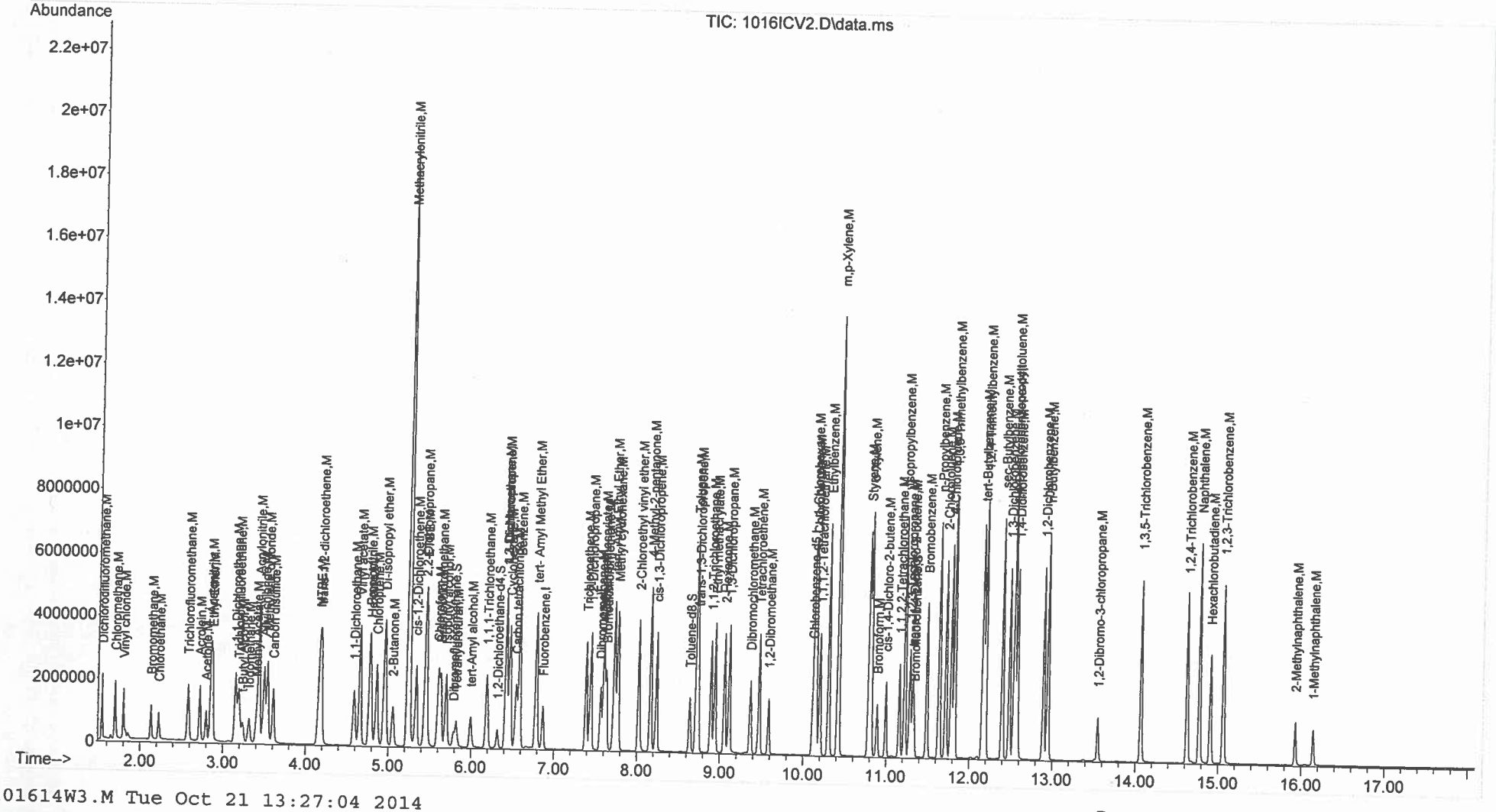
Quant Time: Oct 21 13:26:47 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
96)	1,2-Dichlorobenzene	12.894	146	2024486	100.4264 ug/L	99
97)	n-Butylbenzene	12.943	91	3426209	94.4432 ug/L	100
98)	1,2-Dibromo-3-chloropr...	13.551	157	293274	110.1069 ug/L	100
99)	1,3,5-Trichlorobenzene	14.068	180	1532067	93.9617 ug/L	99
100)	1,2,4-Trichlorobenzene	14.628	180	1436239	89.1048 ug/L	99
101)	Naphthalene	14.774	128	4570212	92.2278 ug/L	100
102)	Hexachlorobutadiene	14.908	225	573986	96.2418 ug/L	98
103)	1,2,3-Trichlorobenzene	15.060	180	1493946	88.2581 ug/L	99
104)	2-Methylnaphthalene	15.930	142	552398	25.1625 ug/L	97
105)	1-Methylnaphthalene	16.143	142	468075	24.1548 ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\101614V3\
Data File : 1016ICV2.D
Acq On : 16 Oct 2014 5:56 pm
Operator :
Sample : SEQ-ICV2
Misc : 1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Oct 21 13:26:47 2014
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration



101614W3.M Tue Oct 21 13:27:04 2014

Sequence Name: C:\msdchem\1\sequence\021115V3.s
Comment: 8260B/C
Operator:
Data Path: C:\MSDCHEM\1\DATA\021115V3\
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:
Data Analysis Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line			Sample Name/Misc Info			
1)	Sample	31	PRIMER	VW3SUR	SEQ-CCV1	
2)	Sample	1	0211TUN1	VW3SUR	SEQ-TUN1 8:13, 2/11	
3)	Sample	2	0211CCV1	VW3SUR	SEQ-CCV1	
4)	Sample	4	0211LC1	VW3SUR	5B11007-BS1	
5)	Sample	5	BLANK	VW3SUR	BLANK	
6)	Sample	6	0211RL1	VW3SUR	SEQ-LCV1	
7)	Sample	7	BLANK1	VW3SUR	BLANK1	
8)	Sample	8	0211BLK1	VW3SUR	5B11007-BLK1	
9)	Sample	9	0204220B	VW3SUR	1502042-20RE1	
10)	Sample	10	0204219C	VW3SUR	1502042-19RE1	
11)	Sample	11	0203401B	VW3SUR	1502034-01RE1	
12)	Sample	12	0204209B	VW3SUR	1502042-09	
13)	Sample	13	0203402C	VW3SUR	1502034-02RE1	
14)	Sample	14	0203403C	VW3SUR	1502034-03RE1	2XF
15)	Sample	15	0201702C	VW3SUR	1502017-02RE1	2XLF
16)	Sample	16	0201917C	VW3SUR	1502019-17RE1	
17)	Sample	17	0201919C	VW3SUR	1502019-19RE1	
18)	Sample	18	0204201B	VW3SUR	1502042-01	
19)	Sample	19	0204203B	VW3SUR	1502042-03	
20)	Sample	20	0204205B	VW3SUR	1502042-05	
21)	Sample	21	0204207B	VW3SUR	1502042-07	
22)	Sample	22	0204211B	VW3SUR	1502042-11	
23)	Sample	23	0204213B	VW3SUR	1502042-13	
24)	Sample	24	0204215B	VW3SUR	1502042-15	
25)	Sample	25	0204217B	VW3SUR	1502042-17	
26)	Sample	26	0204501B	VW3SUR	1502045-01	
27)	Sample	27	0202301B	VW3SUR	1502023-01 RE	2XF
28)	Sample	28	0204209M	VW3SUR	5B11007-MS1	C/D/E
29)	Sample	29	0204209S	VW3SUR	5B11007-MSD1 8:07, 4/11	C/D/E
30)	Sample	30	0211HCV1	VW3SUR	SEQ-HCV1 8:32, 4/11 - out of run.	
31)	Sample	1	0211TUN2	VW3SUR	SEQ-TUN2 5:22, 4/12	

pg 1708a

m 2/14/15

all pH 2

(d 2/12

Archive done on 4/11
m 2/12
(d 2/12

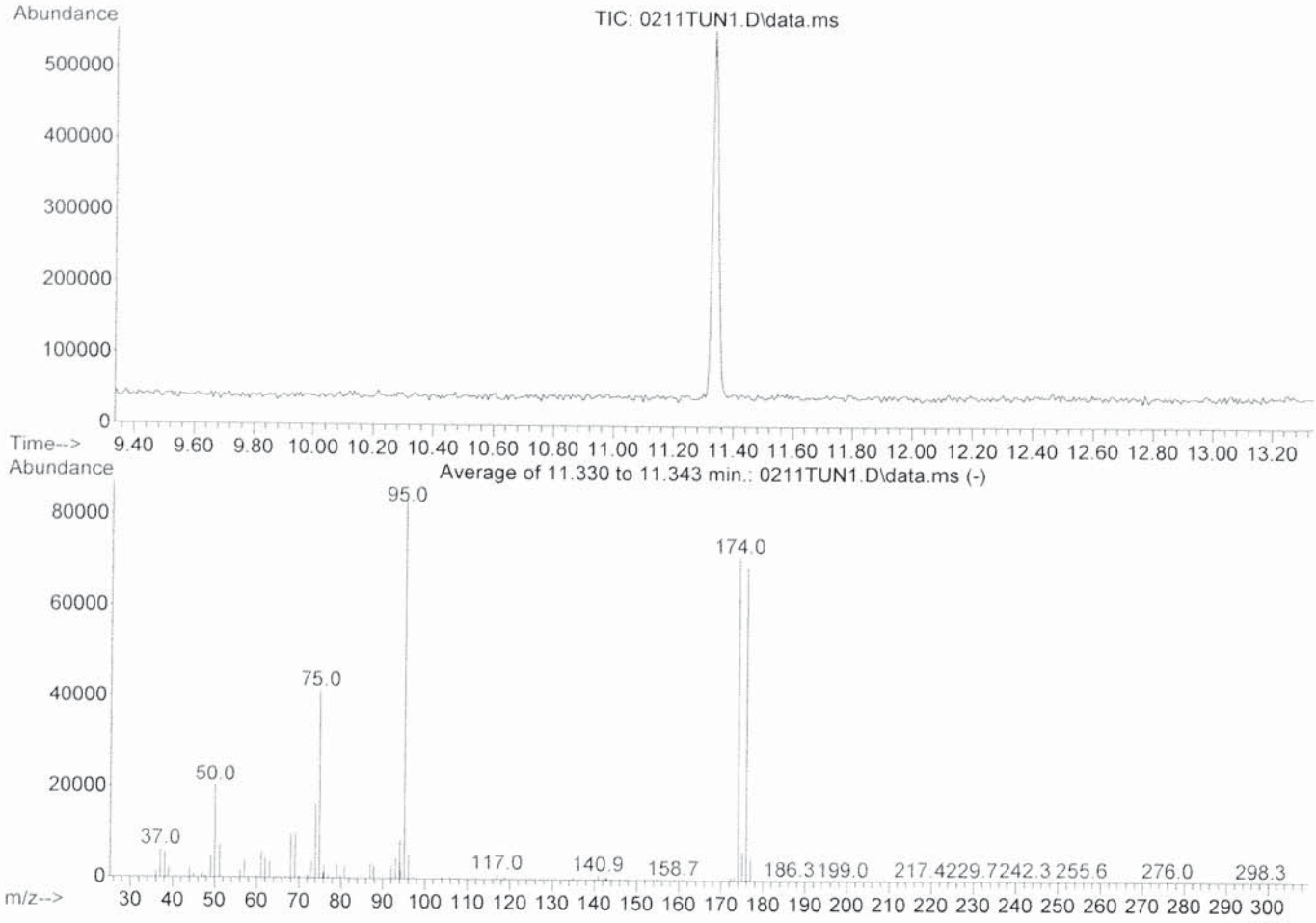
Last Modified: Thu Feb 12 05:04:34 2015

Page: 1

Data Path : C:\msdchem\1\DATA\021115V3\
Data File : 0211TUN1.D
Acq On : 11 Feb 2015 8:13 am
Operator :
Sample : SEQ-TUN1
Misc : 1
ALS Vial : 1 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\METHODS\101614W3.M
Title : 8260B/C
Last Update : Tue Oct 21 13:26:09 2014



AutoFind: Scans 1619, 1620, 1621; Background Corrected with Scan 1609

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	24.5	20354	PASS
75	95	30	60	49.8	41320	PASS
95	95	100	100	100.0	83037	PASS
96	95	5	9	6.5	5423	PASS
173	174	0.00	2	1.3	960	PASS
174	95	50	100	85.8	71272	PASS
175	174	5	9	8.7	6174	PASS
176	174	95	101	96.9	69091	PASS
177	176	5	9	7.3	5061	PASS

02/13/15

Average of 11.330 to 11.343 min.: 0211TUN1.D\data.ms
SEQ-TUN1
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.20	42	45.00	800	53.20	27	60.40	227
36.05	1210	46.05	75	53.80	51	61.05	5825
37.05	6109	47.00	993	54.50	17	62.00	4211
38.05	5546	47.55	470	54.90	355	63.00	3653
39.05	2140	48.05	276	55.15	149	64.00	204
40.80	288	49.05	4713	56.00	1717	64.25	132
41.10	68	50.00	20354	57.05	3881	64.85	156
41.90	79	51.15	7225	58.00	266	65.55	182
42.70	43	51.80	86	58.50	55	66.20	35
43.00	112	52.60	24	58.90	13	66.90	391
44.00	2183	53.00	129	59.90	593	68.00	9762

Average of 11.330 to 11.343 min.: 0211TUN1.D\data.ms
SEQ-TUN1
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
69.05	9740	77.10	616	87.85	2845	98.10	113
69.90	503	77.45	12	88.80	75	99.70	53
70.10	269	78.10	160	89.30	29	100.05	98
71.10	32	79.00	3007	91.25	121	100.60	34
72.10	531	79.90	735	92.00	2931	101.10	55
72.30	214	80.95	3027	93.05	4617	102.00	42
73.05	3785	81.95	246	94.00	8490	103.10	165
74.05	16275	83.00	94	94.20	2049	103.50	53
75.00	41320	83.80	31	95.05	83037	103.80	394
75.90	1304	86.00	146	96.05	5423	104.05	318
76.10	2850	87.05	3371	97.00	431	105.10	34

Average of 11.330 to 11.343 min.: 0211TUN1.D\data.ms
SEQ-TUN1
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
105.90	497	113.00	67	123.70	24	129.00	124
107.05	154	115.75	83	123.90	196	130.10	146
107.50	78	116.20	40	124.60	14	130.90	198
107.80	21	116.95	1175	125.00	113	133.40	21
109.40	18	118.10	203	125.40	31	134.10	34
109.80	77	118.50	149	125.80	98	134.30	64
110.50	20	118.90	510	126.20	33	134.90	369
110.90	17	119.60	80	127.20	139	135.70	90
111.40	21	119.90	82	127.50	62	136.10	31
111.80	18	120.10	73	127.95	97	136.70	175
112.15	141	120.40	60	128.80	58	137.80	21

Average of 11.330 to 11.343 min.: 0211TUN1.D\data.ms
SEQ-TUN1
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
138.00	40	145.90	201	154.10	184	166.30	25
139.20	50	147.15	123	154.90	144	166.50	58
139.90	141	147.60	15	156.00	125	167.80	32
140.90	951	147.95	170	156.40	22	168.30	47
142.05	63	148.70	143	156.80	53	169.00	79
142.75	819	148.95	86	158.70	188	169.80	77
143.00	497	149.60	26	159.10	145	170.40	165
143.80	187	149.80	48	160.30	74	171.20	94
144.30	170	150.40	28	160.95	125	171.80	18
144.70	16	150.90	58	163.00	68	172.15	557
145.00	18	151.85	215	165.40	13	172.50	313

Average of 11.330 to 11.343 min.: 0211TUN1.D\data.ms
SEQ-TUN1
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
173.00	960	182.40	88	191.10	41	210.50	22
174.00	71272	183.00	21	192.00	56	210.80	58
175.00	6174	183.50	86	192.20	72	212.10	103
175.95	69091	184.00	58	194.40	67	213.40	28
176.95	5061	184.20	60	195.70	23	214.70	18
177.70	28	185.10	22	199.00	39	215.40	77

178.00	240	185.90	44	200.60	16	215.60	34
179.30	26	186.25	102	203.60	14	216.20	15
179.60	105	186.70	27	204.10	36	217.10	49
180.20	26	188.80	19	206.20	38	217.40	113
181.30	18	189.10	19	207.60	111	217.60	112

Average of 11.330 to 11.343 min.: 0211TUN1.D\data.ms
SEQ-TUN1
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
217.90	61	236.40	89	255.00	68	270.30	15
222.15	63	236.90	96	255.60	76	271.30	40
223.30	52	238.70	124	256.30	50	271.70	21
224.70	26	242.30	131	256.90	68	272.40	16
228.20	27	246.70	16	257.60	55	274.40	15
228.80	68	247.20	75	260.80	74	276.00	129
229.70	15	250.10	114	263.30	20	276.80	26
232.70	44	252.80	73	264.30	61	279.70	20
233.50	92	253.90	88	265.40	27	280.50	77
234.80	23	254.30	82	266.50	48	282.70	34
235.60	14	254.60	29	269.60	52	283.00	47

Average of 11.330 to 11.343 min.: 0211TUN1.D\data.ms
SEQ-TUN1
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
291.30	22						
292.70	25						
294.70	15						
296.10	49						
298.30	56						
299.60	45						

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021115V3\
Data File : 0211CCV1.D
Acq On : 11 Feb 2015 8:42 am
Operator :
Sample : SEQ-CCV1
Misc : 1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Feb 11 12:38:51 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	6.865	96	907860	30.00	ug/L	0.00
59) Chlorobenzene-d5	10.114	82	396816	30.00	ug/L	0.00
81) 1,4-Dichlorobenzene-d4	12.547	152	354026	30.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	5.788	111	258320	30.99	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 103.30%			
41) 1,2-Dichloroethane-d4	6.324	102	58506	28.96	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 96.53%			
60) Toluene-d8	8.642	98	892696	28.19	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 93.97%			
80) Bromofluorobenzene	11.337	95	356226	30.05	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 100.17%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.542	85	1119636	129.4544	ug/L	99
3) Chloromethane	1.694	50	1338276	98.3123	ug/L	100
4) Vinyl chloride	1.804	62	865908	111.2275	ug/L	96
5) Bromomethane	2.132	94	457864	101.9065	ug/L	99
6) Chloroethane	2.229	64	561268	109.0552	ug/L	96
7) Trichlorofluoromethane	2.582	101	1367137	113.0812	ug/L	99
8) Acrolein	2.722	56	960602	434.0727	ug/L	99
9) Acetone	2.795	43	1262245	236.9714	ug/L	97
10) Acetonitrile	2.856	41	2173458	906.1022	ug/L	98
11) Ethyl Ether	2.874	59	910926	109.8274	ug/L	91
12) 1,1-Dichloroethene	3.148	96	699220	96.2674	ug/L	88
13) Trichlorotrifluoroethane	3.191	101	754299	98.1669	ug/L	99
14) Iodomethane	3.318	142	1049352	115.0129	ug/L	99
15) t-Butyl Alcohol	3.239	59	608871	482.1200	ug/L	93
16) Methyl Acetate	3.410	43	1118786	83.7592	ug/L	99
17) Acrylonitrile	3.434	53	2652302	444.3134	ug/L	97
18) Allyl chloride	3.501	76	411768	99.7800	ug/L	97
19) Methylene chloride	3.537	84	820883	96.1170	ug/L	95
20) Carbon disulfide	3.610	76	2141724	93.7074	ug/L	99
21) trans-1,2-dichloroethene	4.194	96	746089	90.7657	ug/L	85
22) MTBE	4.170	73	2687616	103.8436	ug/L	98
23) 1,1-Dichloroethane	4.590	63	1855239	103.4027	ug/L	98
24) Vinyl acetate	4.657	43	5580138	209.5525	ug/L	100
25) Propionitrile	4.772	54	2059460	929.1158	ug/L	97
26) Hexane	4.791	57	1050220	121.3917	ug/L	96
27) Chloroprene	4.864	53	1904439	117.8156	ug/L	96
28) Di-isopropyl ether	4.961	45	4261094	101.7233	ug/L	99
29) 2-Butanone	5.058	43	1633422	200.9663	ug/L	99
30) Methacrylonitrile	5.247	41	9345398	939.5017	ug/L	100
31) cis-1,2-Dichloroethene	5.338	96	883032	96.1827	ug/L	90
32) 2,2-Dichloropropane	5.448	77	1312925	111.0557	ug/L	96
33) ETBE	5.454	59	3517987	111.7996	ug/L	96
34) Chloroform	5.606	83	1676506	101.8649	ug/L	99
35) Bromochloromethane	5.636	128	425237	87.4312	ug/L	90
36) Isobutyl alcohol	5.697	42	775557	2010.7302	ug/L	97
38) Tetrahydrofuran	5.825	72	122105	82.6408	ug/L	97

02/13/15

Data Path : C:\msdchem\1\DATA\021115V3\
Data File : 0211CCV1.D
Acq On : 11 Feb 2015 8:42 am
Operator :
Sample : SEQ-CCV1
Misc : 1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Feb 11 12:38:51 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39) tert-Amyl alcohol	5.995	59	476563	518.7718 ug/L	97
40) 1,1,1-Trichloroethane	6.190	97	1487519	111.3428 ug/L	100
42) 1,2-Dichloroethane	6.415	62	1753491	112.9253 ug/L #	99
43) 1,1-Dichloropropene	6.421	75	1226279	111.6101 ug/L	97
44) Cyclohexane	6.470	56	1787737	110.0554 ug/L	96
45) Carbon tetrachloride	6.549	117	1290737	123.8809 ug/L	98
46) Benzene	6.585	78	3322685	97.0698 ug/L	99
47) tert- Amyl Methyl Ether	6.786	73	2496400	105.1107 ug/L	97
48) Trichloroethene	7.388	95	840732	93.9361 ug/L	97
49) 1,2-Dichloropropane	7.443	63	1055110	98.5642 ug/L	98
50) Dibromomethane	7.565	93	617819	96.2107 ug/L	96
51) Methyl methacrylate	7.601	41	1355637	105.4182 ug/L	100
52) 1,4-Dioxane	7.607	88	260552	1814.0420 ug/L	96
53) Bromodichloromethane	7.632	83	1256440	102.0165 ug/L	100
54) tert- Amyl Ethyl Ether	7.729	59	2742478	114.4917 ug/L	98
55) Methyl cyclohexane	7.772	83	1300323	106.9325 ug/L	95
56) 2-Chloroethyl vinyl ether	8.021	63	1095022	187.2619 ug/L	99
57) 4-Methyl-2-pentanone	8.167	43	2993368	194.9415 ug/L	98
58) cis-1,3-Dichloropropene	8.240	75	1495160	117.2982 ug/L	100
61) trans-1,3-Dichloropropene	8.739	75	1504984	110.8924 ug/L	96
62) Toluene	8.721	92	2134646	92.7510 ug/L	98
63) 1,1,2-Trichloroethane	8.891	83	686882	83.4209 ug/L	98
64) Ethyl methacrylate	8.940	69	1252967	99.0539 ug/L	100
65) 2-Hexanone	9.055	43	2200378	192.2430 ug/L	97
66) 1,3-Dichloropropane	9.116	76	1474370	90.3485 ug/L	99
67) Dibromochloromethane	9.366	129	991959	101.7339 ug/L	98
68) Tetrachloroethene	9.475	166	933584	102.3961 ug/L	96
69) 1,2-Dibromoethane	9.591	107	854878	87.2086 ug/L	97
70) 1-Chlorohexane	10.132	91	1072871	105.4303 ug/L	92
71) Chlorobenzene	10.150	112	2299435	89.8857 ug/L	95
72) 1,1,1,2-Tetrachloroethane	10.199	131	892224	99.7537 ug/L	97
73) Ethylbenzene	10.308	91	4139374	103.7229 ug/L	96
74) m,p-Xylene	10.418	91	6498186	205.7366 ug/L	95
75) Styrene	10.789	104	2689538	110.5358 ug/L	93
76) o-Xylene	10.819	91	3525858	103.6783 ug/L	97
77) Bromoform	10.892	173	746129	120.2937 ug/L	98
78) Isopropylbenzene	11.221	105	4141663	115.4983 ug/L	96
79) 1,2,3-Trichloropropane	11.288	110	369821	82.9535 ug/L	100
82) cis-1,4-Dichloro-2-butene	11.002	53	566641	142.4691 ug/L	91
83) 1,1,2,2-Tetrachloroethane	11.160	83	1145297	92.7549 ug/L	97
84) trans-1,4-Dichloro-2-b...	11.318	53	544865	129.7019 ug/L	98
85) Bromobenzene	11.489	156	1078765	103.7662 ug/L	99
86) n-Propylbenzene	11.641	91	4867027	114.6941 ug/L	97
87) 2-Chlorotoluene	11.720	91	3013529	107.2382 ug/L	95
88) 4-Chlorotoluene	11.787	91	3277582	119.7514 ug/L	93
89) 1,3,5-Trimethylbenzene	11.823	105	3738952	118.2498 ug/L	93
90) tert-Butylbenzene	12.164	119	3347610	105.5384 ug/L	93
91) 1,2,4-Trimethylbenzene	12.194	105	3883487	117.5545 ug/L	93
92) sec-Butylbenzene	12.401	105	4493982	115.8079 ug/L	100
93) 1,3-Dichlorobenzene	12.486	146	1951109	105.0066 ug/L	100
94) 1,4-Dichlorobenzene	12.578	146	1960121	102.8155 ug/L	98
95) p-Isopropyltoluene	12.541	119	3736765	112.2663 ug/L	96

Data Path : C:\msdchem\1\DATA\021115V3\
Data File : 0211CCV1.D
Acq On : 11 Feb 2015 8:42 am
Operator :
Sample : SEQ-CCV1
Misc : 1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Feb 11 12:38:51 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

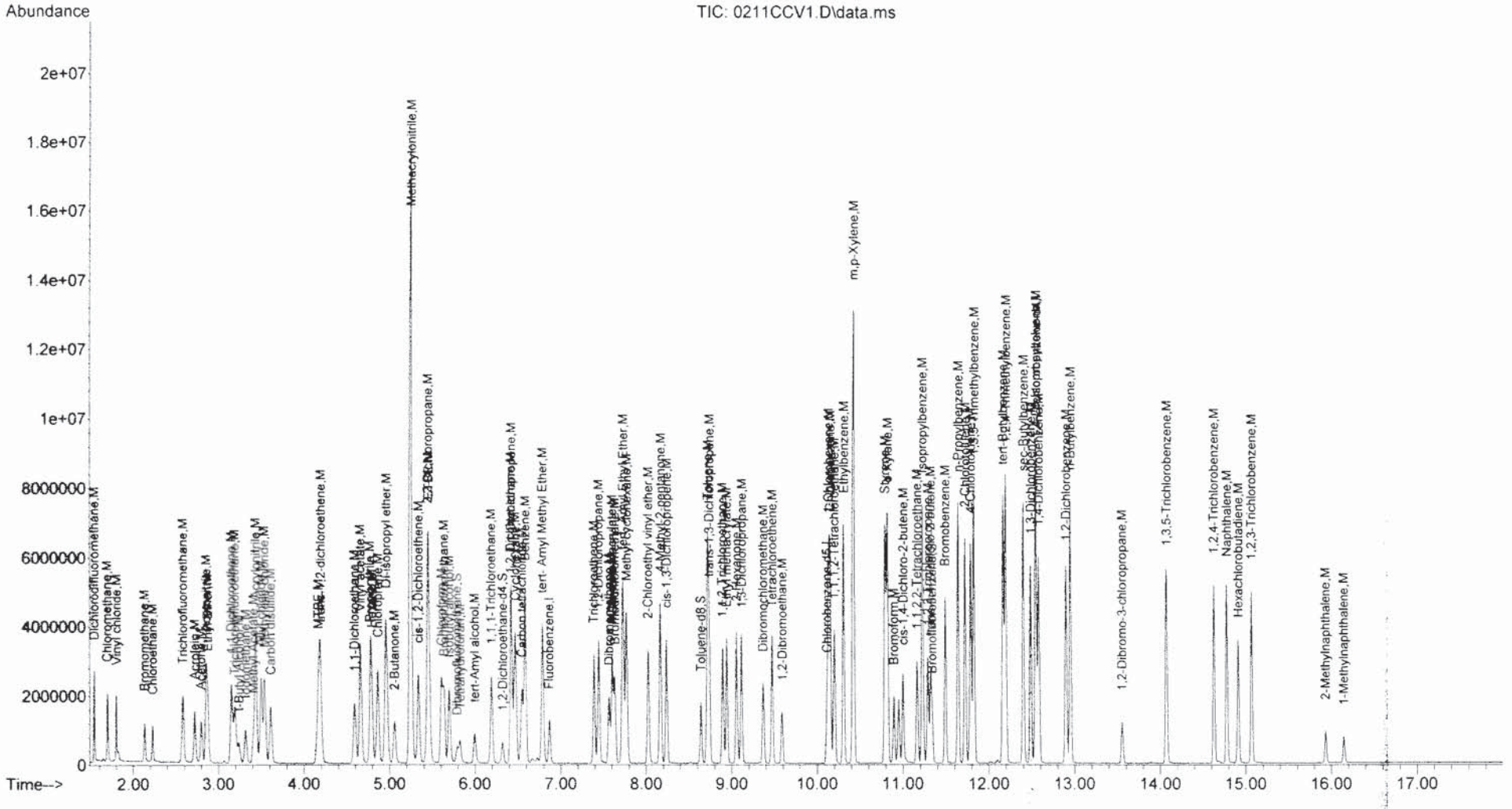
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
96)	1,2-Dichlorobenzene	12.900	146	1926343	100.3393	ug/L	99
97)	n-Butylbenzene	12.949	91	3539291	102.4418	ug/L	99
98)	1,2-Dibromo-3-chloropr...	13.551	157	270237	106.5344	ug/L	99
99)	1,3,5-Trichlorobenzene	14.074	180	1600362	103.0613	ug/L	99
100)	1,2,4-Trichlorobenzene	14.628	180	1414262	92.1316	ug/L	100
101)	Naphthalene	14.780	128	3470202	73.5334	ug/L	100
102)	Hexachlorobutadiene	14.914	225	613266	107.9730	ug/L	97
103)	1,2,3-Trichlorobenzene	15.066	180	1339259	83.0784	ug/L	98
104)	2-Methylnaphthalene	15.930	142	380643	19.6493	ug/L	96
105)	1-Methylnaphthalene	16.143	142	319610	18.6032	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021115V3\
Data File : 0211CCV1.D
Acq On : 11 Feb 2015 8:42 am
Operator :
Sample : SEQ-CCV1
Misc : 1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Feb 11 12:38:51 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021115V3\
Data File : 0211LC1.D
Acq On : 11 Feb 2015 9:40 am
Operator :
Sample : 5B11007-BS1
Misc : 1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 11 12:42:26 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	6.865	96	954304	30.00	ug/L	0.00
59) Chlorobenzene-d5	10.114	82	413291	30.00	ug/L	0.00
81) 1,4-Dichlorobenzene-d4	12.553	152	383937	30.00	ug/L	# 0.00
System Monitoring Compounds						
37) Dibromofluoromethane	5.788	111	262290	29.93	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 99.77%			
41) 1,2-Dichloroethane-d4	6.324	102	63437	29.87	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 99.57%			
60) Toluene-d8	8.642	98	942671	28.59	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 95.30%			
80) Bromofluorobenzene	11.337	95	388926	31.50	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 105.00%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.542	85	570229	62.7222	ug/L	99
3) Chloromethane	1.694	50	711077	49.6948	ug/L	99
4) Vinyl chloride	1.798	62	448127	54.7613	ug/L	98
5) Bromomethane	2.132	94	234606	49.6749	ug/L	98
6) Chloroethane	2.223	64	241178	44.5806	ug/L	94
7) Trichlorofluoromethane	2.582	101	701775	55.2215	ug/L	100
8) Acrolein	2.722	56	495645	213.0698	ug/L	99
9) Acetone	2.795	43	739854	132.1388	ug/L	99
10) Acetonitrile	2.850	41	1105527	438.4574	ug/L	96
11) Ethyl Ether	2.868	59	474260	54.3972	ug/L	91
12) 1,1-Dichloroethene	3.148	96	329152	43.1116	ug/L	86
13) Trichlorotrifluoroethane	3.191	101	390816	48.3867	ug/L	94
14) Iodomethane	3.319	142	500587	52.1960	ug/L	97
15) t-Butyl Alcohol	3.233	59	279198	210.3170	ug/L	94
16) Methyl Acetate	3.404	43	564074	40.1748	ug/L	99
17) Acrylonitrile	3.434	53	1386224	220.9185	ug/L	98
18) Allyl chloride	3.495	76	190515	43.9190	ug/L	91
19) Methylene chloride	3.538	84	404090	45.0121	ug/L	94
20) Carbon disulfide	3.611	76	1038103	43.2099	ug/L	100
21) trans-1,2-dichloroethene	4.188	96	354825	41.0655	ug/L	85
22) MTBE	4.170	73	1359714	49.9795	ug/L	97
23) 1,1-Dichloroethane	4.590	63	909988	48.2503	ug/L	96
24) Vinyl acetate	4.657	43	2768530	98.9075	ug/L	100
25) Propionitrile	4.772	54	1029073	441.6668	ug/L	97
26) Hexane	4.785	57	519513	57.1264	ug/L	97
27) Chloroprene	4.858	53	915521	53.8811	ug/L	96
28) Di-isopropyl ether	4.961	45	1918946	43.5807	ug/L	99
29) 2-Butanone	5.058	43	889658	104.1310	ug/L	99
30) Methacrylonitrile	5.241	41	4702632	449.7518	ug/L	100
31) cis-1,2-Dichloroethene	5.338	96	418350	43.3503	ug/L	89
32) 2,2-Dichloropropane	5.442	77	669932	53.9093	ug/L	96
33) ETBE	5.454	59	1647681	49.8140	ug/L	98
34) Chloroform	5.606	83	801753	46.3438	ug/L	100
35) Bromochloromethane	5.636	128	216643	42.3752	ug/L	91
36) Isobutyl alcohol	5.697	42	380559	938.6295	ug/L	95
38) Tetrahydrofuran	5.819	72	64840	41.7481	ug/L	90

02/13/15

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021115V3\
Data File : 0211LC1.D
Acq On : 11 Feb 2015 9:40 am
Operator :
Sample : 5B11007-BS1
Misc : 1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 11 12:42:26 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
39) tert-Amyl alcohol	5.989	59	243318	251.9779	ug/L		98
40) 1,1,1-Trichloroethane	6.190	97	718157	51.1389	ug/L		98
42) 1,2-Dichloroethane	6.415	62	855115	52.3895	ug/L		98
43) 1,1-Dichloropropene	6.421	75	579845	50.2063	ug/L		97
44) Cyclohexane	6.464	56	908618	53.2134	ug/L		97
45) Carbon tetrachloride	6.543	117	613108	55.9804	ug/L		99
46) Benzene	6.585	78	1622795	45.1015	ug/L		100
47) tert- Amyl Methyl Ether	6.786	73	1271265	50.9215	ug/L		96
48) Trichloroethene	7.388	95	414658	44.0755	ug/L		95
49) 1,2-Dichloropropane	7.443	63	501637	44.5803	ug/L		96
50) Dibromomethane	7.565	93	297770	44.1139	ug/L		97
51) Methyl methacrylate	7.601	41	698192	51.6511	ug/L		99
52) 1,4-Dioxane	7.614	88	129084	854.9830	ug/L		96
53) Bromodichloromethane	7.632	83	637013	49.2050	ug/L		99
54) tert- Amyl Ethyl Ether	7.729	59	1224678	48.6390	ug/L		97
55) Methyl cyclohexane	7.772	83	664152	51.9587	ug/L		92
56) 2-Chloroethyl vinyl ether	8.021	63	554473	90.2068	ug/L		98
57) 4-Methyl-2-pentanone	8.161	43	1505448	93.2700	ug/L		97
58) cis-1,3-Dichloropropene	8.240	75	741909	55.3715	ug/L		99
61) trans-1,3-Dichloropropene	8.739	75	671462	47.5034	ug/L		98
62) Toluene	8.721	92	1035071	43.1813	ug/L		100
63) 1,1,2-Trichloroethane	8.891	83	342556	39.9445	ug/L		97
64) Ethyl methacrylate	8.940	69	648800	49.2466	ug/L		98
65) 2-Hexanone	9.055	43	1184452	99.3582	ug/L		97
66) 1,3-Dichloropropane	9.116	76	758834	44.6472	ug/L		99
67) Dibromochloromethane	9.366	129	481923	47.4551	ug/L		99
68) Tetrachloroethene	9.469	166	454231	47.8344	ug/L		95
69) 1,2-Dibromoethane	9.585	107	432713	42.3827	ug/L		98
70) 1-Chlorohexane	10.132	91	528016	49.8194	ug/L		91
71) Chlorobenzene	10.150	112	1122522	42.1306	ug/L		95
72) 1,1,1,2-Tetrachloroethane	10.199	131	423897	45.5039	ug/L		96
73) Ethylbenzene	10.309	91	1975440	47.5266	ug/L		96
74) m,p-Xylene	10.418	91	3224116	98.0084	ug/L		94
75) Styrene	10.789	104	1283782	50.6582	ug/L		94
76) o-Xylene	10.820	91	1722595	48.6339	ug/L		95
77) Bromoform	10.893	173	363135	56.2122	ug/L		98
78) Isopropylbenzene	11.227	105	1925106	51.5453	ug/L		96
79) 1,2,3-Trichloropropane	11.288	110	187331	40.3447	ug/L		99
82) cis-1,4-Dichloro-2-butene	10.996	53	299246	69.3771	ug/L		95
83) 1,1,2,2-Tetrachloroethane	11.160	83	589198	44.0003	ug/L		99
84) trans-1,4-Dichloro-2-b...	11.318	53	280273	61.5197	ug/L	#	77
85) Bromobenzene	11.495	156	529476	46.9624	ug/L		98
86) n-Propylbenzene	11.641	91	2285326	49.6593	ug/L		95
87) 2-Chlorotoluene	11.720	91	1465543	48.0893	ug/L		94
88) 4-Chlorotoluene	11.787	91	1577377	53.1420	ug/L		91
89) 1,3,5-Trimethylbenzene	11.823	105	1844609	53.7935	ug/L		92
90) tert-Butylbenzene	12.164	119	1622854	47.1770	ug/L		93
91) 1,2,4-Trimethylbenzene	12.194	105	1856309	51.8135	ug/L		94
92) sec-Butylbenzene	12.401	105	2132216	50.6656	ug/L		99
93) 1,3-Dichlorobenzene	12.486	146	921206	45.7159	ug/L		98
94) 1,4-Dichlorobenzene	12.578	146	945772	45.7443	ug/L		99
95) p-Isopropyltoluene	12.541	119	1785006	49.4502	ug/L		96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021115V3\
Data File : 0211LC1.D
Acq On : 11 Feb 2015 9:40 am
Operator :
Sample : 5B11007-BS1
Misc : 1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 11 12:42:26 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

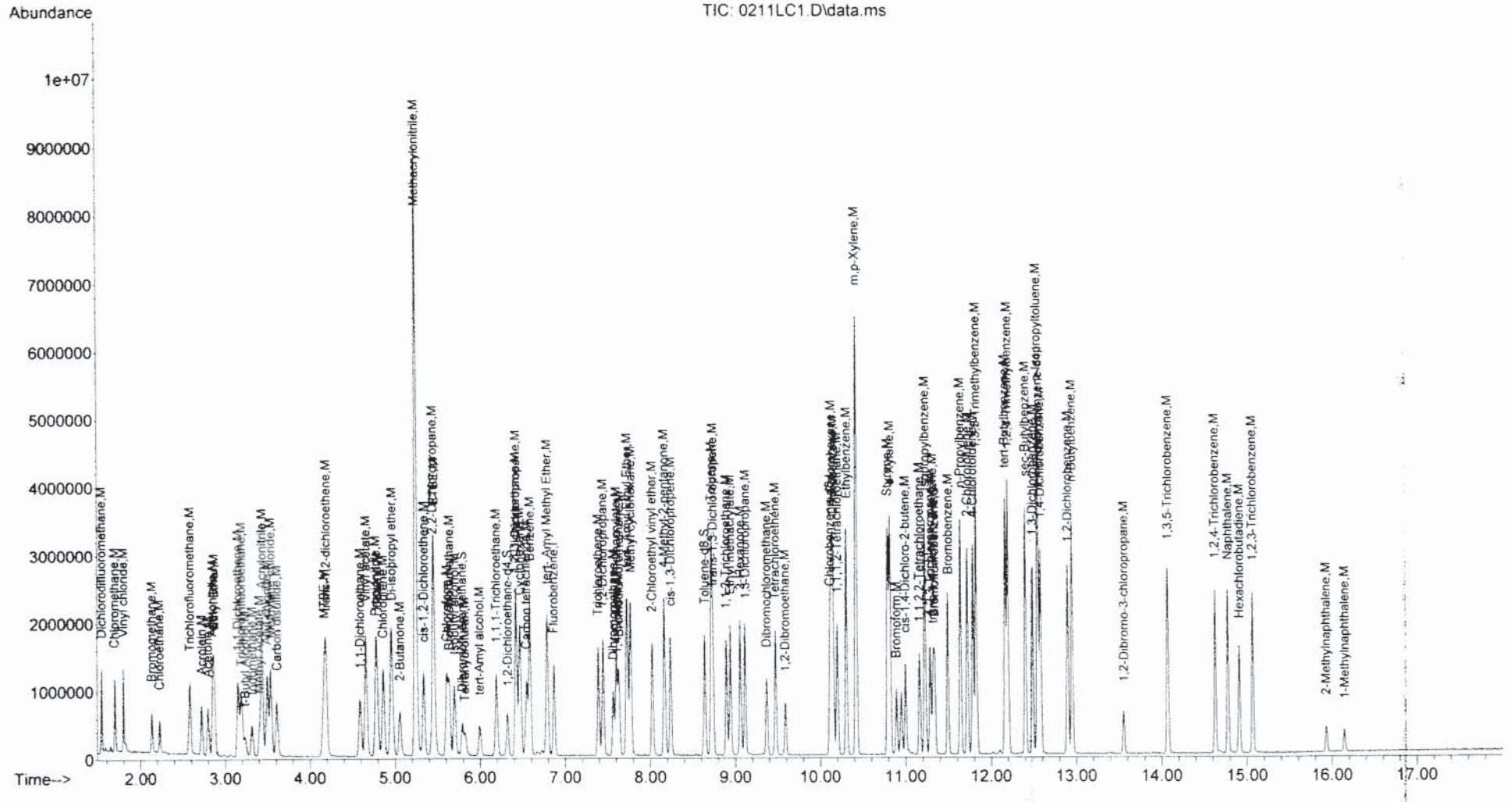
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
96) 1,2-Dichlorobenzene	12.900	146	950177	45.6370	ug/L	100
97) n-Butylbenzene	12.949	91	1651496	44.0772	ug/L	98
98) 1,2-Dibromo-3-chloropr...	13.557	157	141131	51.3030	ug/L	97
99) 1,3,5-Trichlorobenzene	14.074	180	776074	46.0846	ug/L	99
100) 1,2,4-Trichlorobenzene	14.628	180	642419	38.5898	ug/L	99
101) Naphthalene	14.780	128	1602103	31.3037	ug/L	100
102) Hexachlorobutadiene	14.914	225	278796	45.2614	ug/L	99
103) 1,2,3-Trichlorobenzene	15.066	180	631492	36.1216	ug/L	98
104) 2-Methylnaphthalene	15.930	142	157041	9.0079	ug/L	98
105) 1-Methylnaphthalene	16.149	142	132678	8.3857	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021115V3\
Data File : 0211LC1.D
Acq On : 11 Feb 2015 9:40 am
Operator :
Sample : 5B11007-BS1
Misc : 1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 11 12:42:26 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021115V3\
Data File : 0211BLK1.D
Acq On : 11 Feb 2015 11:21 am
Operator :
Sample : 5B11007-BLK1
Misc : 1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 11 12:48:56 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	6.871	96	884305	30.00	ug/L		0.00
59) Chlorobenzene-d5	10.114	82	382689	30.00	ug/L		0.00
81) 1,4-Dichlorobenzene-d4	12.553	152	325065	30.00	ug/L	#	0.00
System Monitoring Compounds							
37) Dibromofluoromethane	5.788	111	244621	30.13	ug/L		0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 100.43%				
41) 1,2-Dichloroethane-d4	6.318	102	58145	29.55	ug/L		0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 98.50%				
60) Toluene-d8	8.642	98	864603	28.31	ug/L		0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 94.37%				
80) Bromofluorobenzene	11.337	95	329923	28.86	ug/L		0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 96.20%				
Target Compounds							Qvalue
20) Carbon disulfide	3.623	76	2445	0.1098	ug/L	#	58

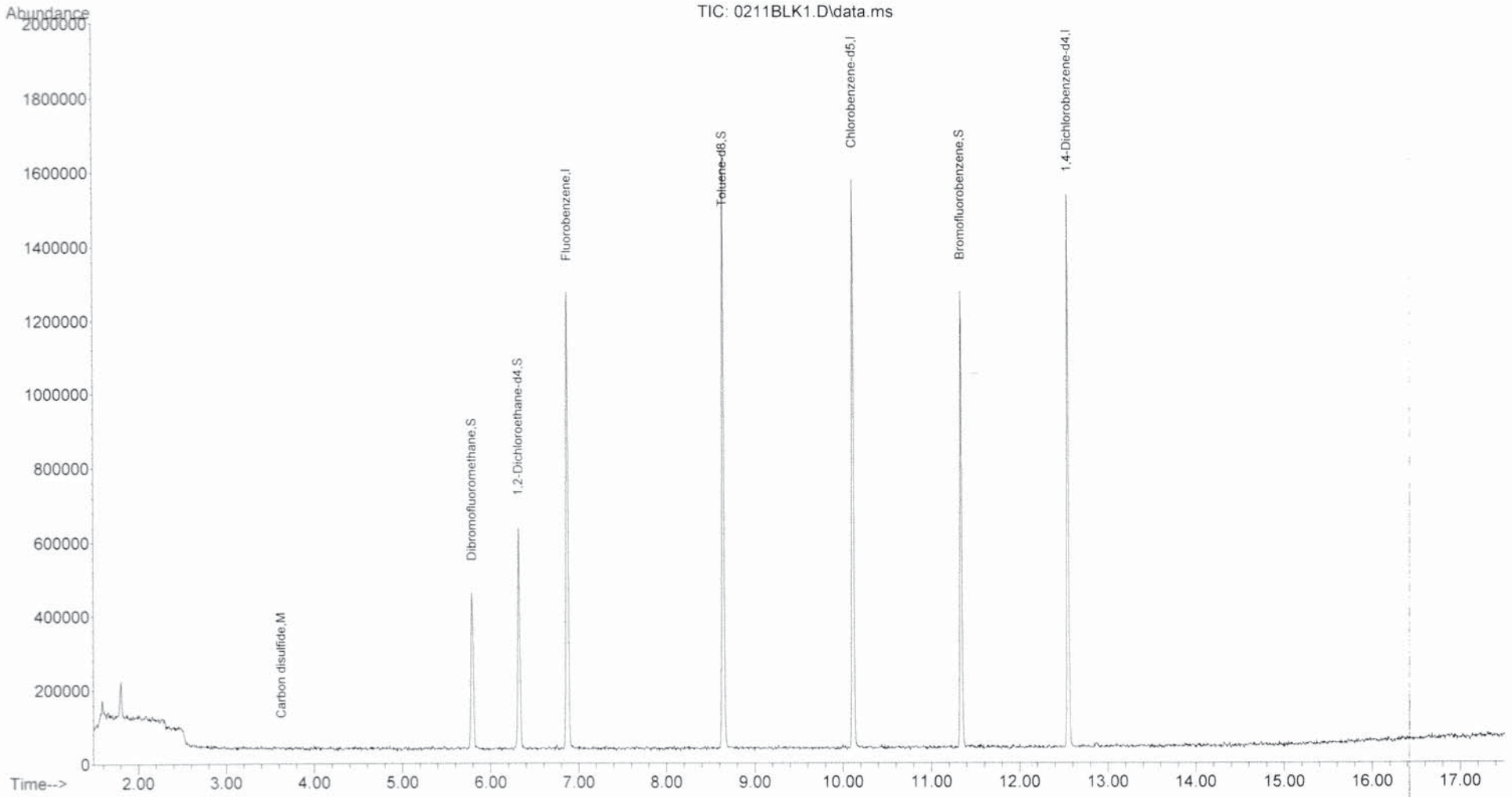
(#) = qualifier out of range (m) = manual integration (+) = signals summed

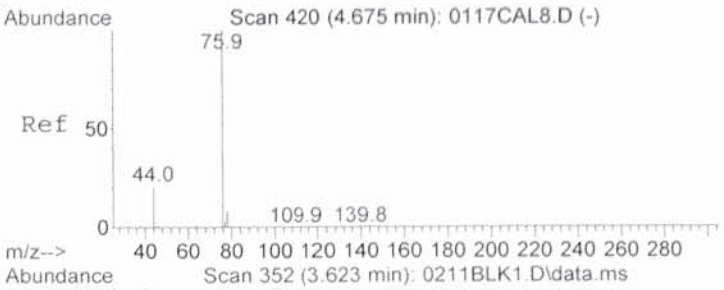
02/13/15

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021115V3\
Data File : 0211BLK1.D
Acq On : 11 Feb 2015 11:21 am
Operator :
Sample : 5B11007-BLK1
Misc : 1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 11 12:48:56 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

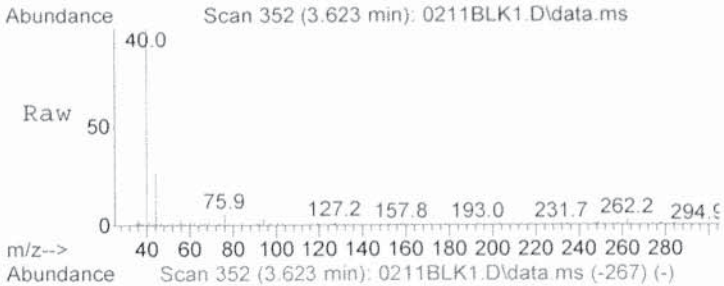


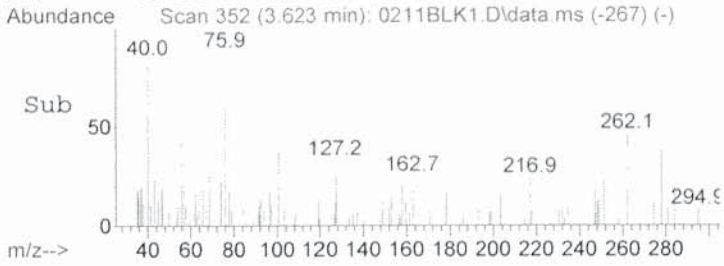


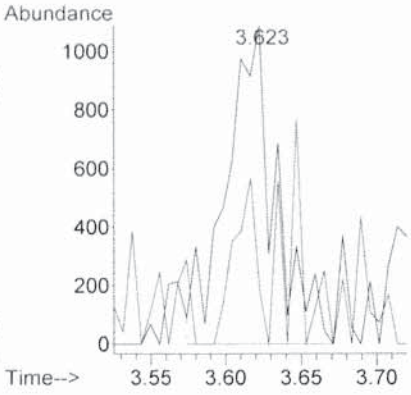
#20
Carbon disulfide
Concen: 0.1098 ug/L
RT: 3.623 min Scan# 352
Delta R.T. 0.019 min
Lab File: 0211BLK1.D
Acq: 11 Feb 2015 11:21 am

Tgt Ion: 76 Resp: 2445

Ion	Ratio	Lower	Upper
76	100		
78	24.3	7.4	11.0#







Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021115V3\
Data File : 0113401B.D
Acq On : 11 Feb 2015 12:36 pm
Operator :
Sample : 1501134-01RE1
Misc : 1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 12 08:38:14 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

(02/12)

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	6.871	96	883186	30.00	ug/L	0.00
59) Chlorobenzene-d5	10.114	82	376325	30.00	ug/L	0.00
81) 1,4-Dichlorobenzene-d4	12.553	152	334274	30.00	ug/L	# 0.00
System Monitoring Compounds						
37) Dibromofluoromethane	5.794	111	248466	30.64	ug/L	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 102.13%			
41) 1,2-Dichloroethane-d4	6.318	102	56372	28.68	ug/L	0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 95.60%			
60) Toluene-d8	8.642	98	860797	28.67	ug/L	0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 95.57%			
80) Bromofluorobenzene	11.337	95	330564	29.40	ug/L	0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 98.00%			
Target Compounds						Qvalue
20) Carbon disulfide	3.604	76	2468	0.1110	ug/L #	70

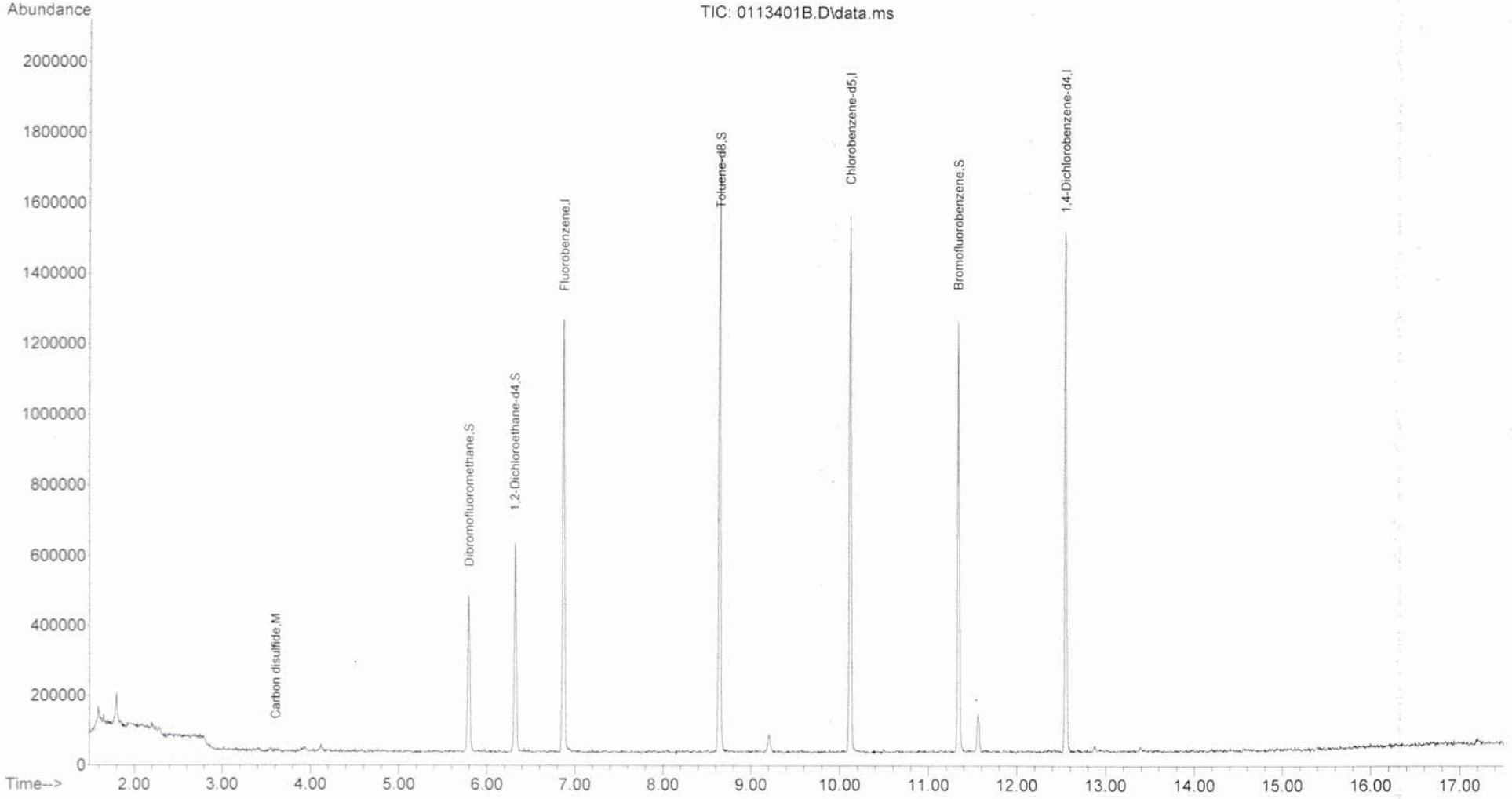
(#) = qualifier out of range (m) = manual integration (+) = signals summed

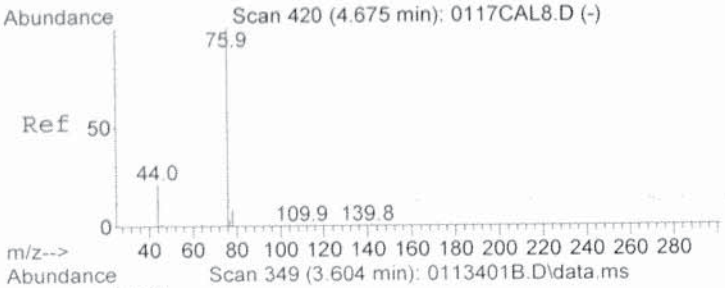
02/13/15

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021115V3\
Data File : 0113401B.D
Acq On : 11 Feb 2015 12:36 pm
Operator :
Sample : 1501134-01RE1
Misc : 1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 12 08:38:14 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

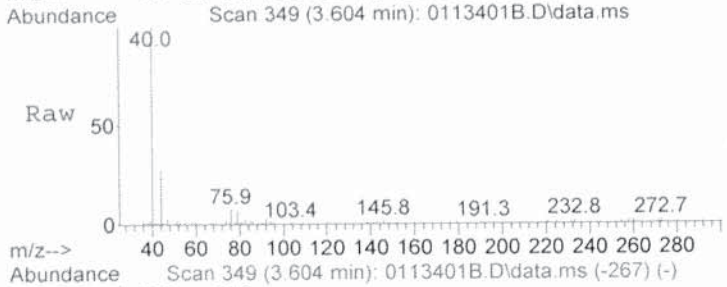


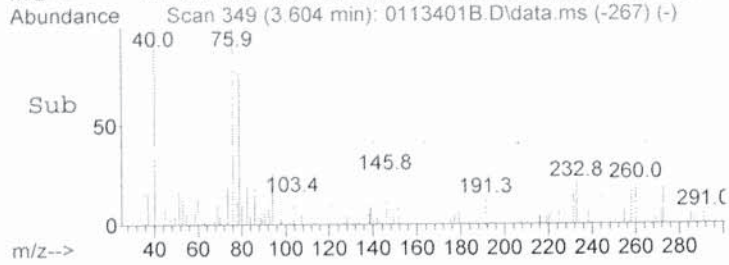


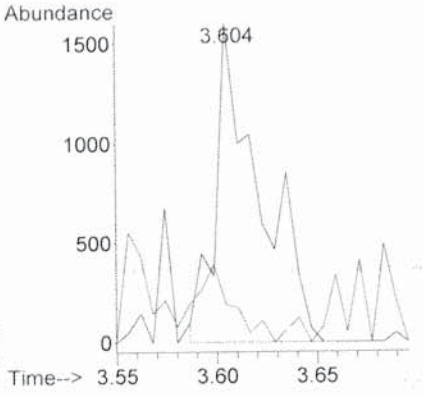
#20
Carbon disulfide
Concen: 0.1110 ug/L
RT: 3.604 min Scan# 349
Delta R.T. 0.000 min
Lab File: 0113401B.D
Acq: 11 Feb 2015 12:36 pm

Tgt Ion: 76 Resp: 2468

Ion	Ratio	Lower	Upper
76	100		
78	20.2	7.4	11.0#







Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021115V3\
Data File : 0113402C.D
Acq On : 11 Feb 2015 1:26 pm
Operator :
Sample : 1501134-02RE1
Misc : 1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Feb 12 08:41:50 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	6.871	96	892192	30.00	ug/L		0.00
59) Chlorobenzene-d5	10.114	82	398015	30.00	ug/L		0.00
81) 1,4-Dichlorobenzene-d4	12.553	152	320309	30.00	ug/L	#	0.00
System Monitoring Compounds							
37) Dibromofluoromethane	5.788	111	257625	31.45	ug/L		0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 104.83%				
41) 1,2-Dichloroethane-d4	6.318	102	56762	28.59	ug/L		0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 95.30%				
60) Toluene-d8	8.642	98	878291	27.66	ug/L		0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 92.20%				
80) Bromofluorobenzene	11.337	95	338795	28.49	ug/L		0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 94.97%				
Target Compounds							Qvalue
73) Ethylbenzene	10.315	91	2457	0.0614	ug/L	#	81
74) m,p-Xylene	10.424	91	7001	0.2210	ug/L		90
76) o-Xylene	10.820	91	4745	0.1391	ug/L		89

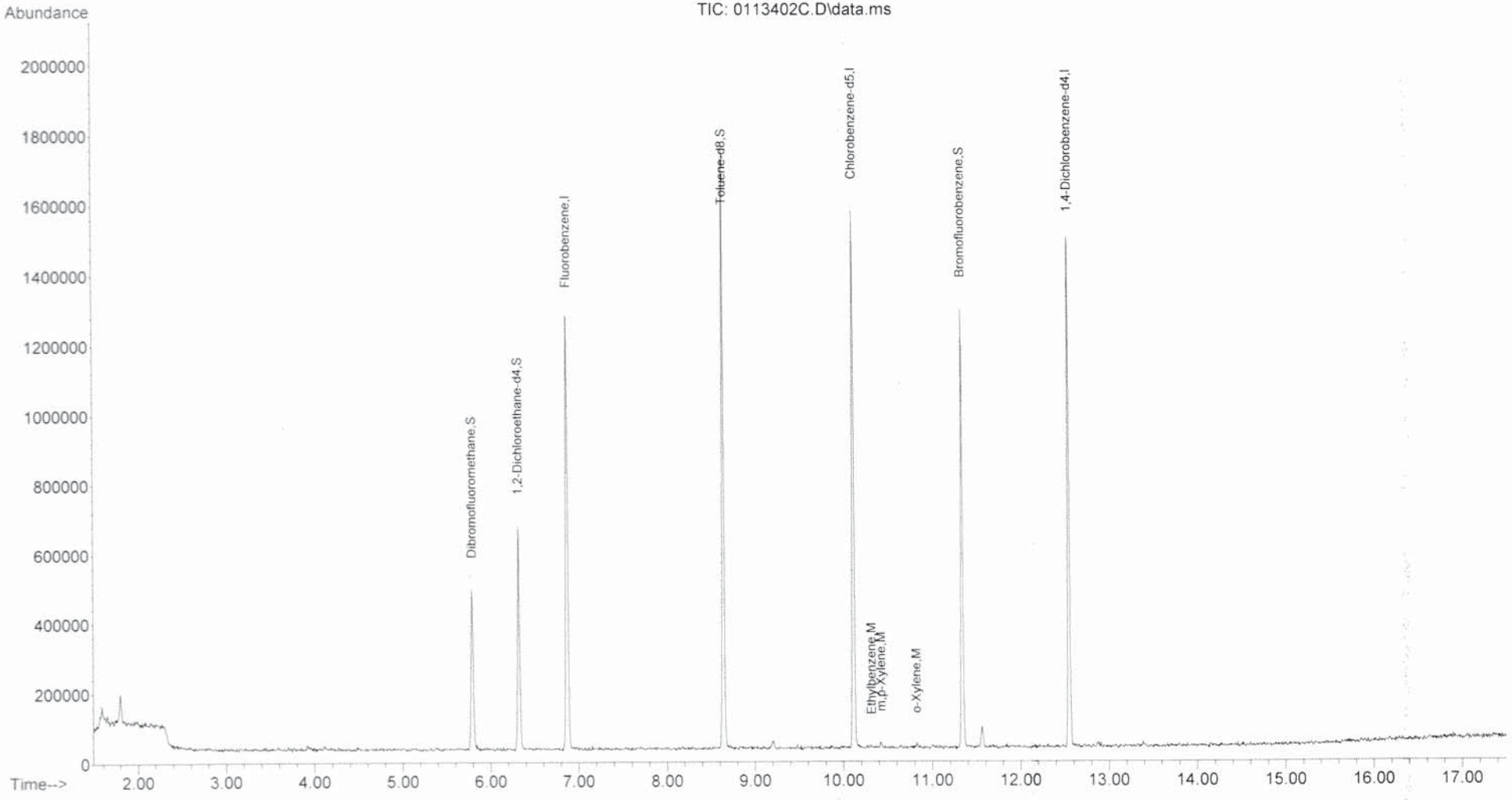
(#) = qualifier out of range (m) = manual integration (+) = signals summed

02/13/15

Quantitation Report (QT Reviewed)

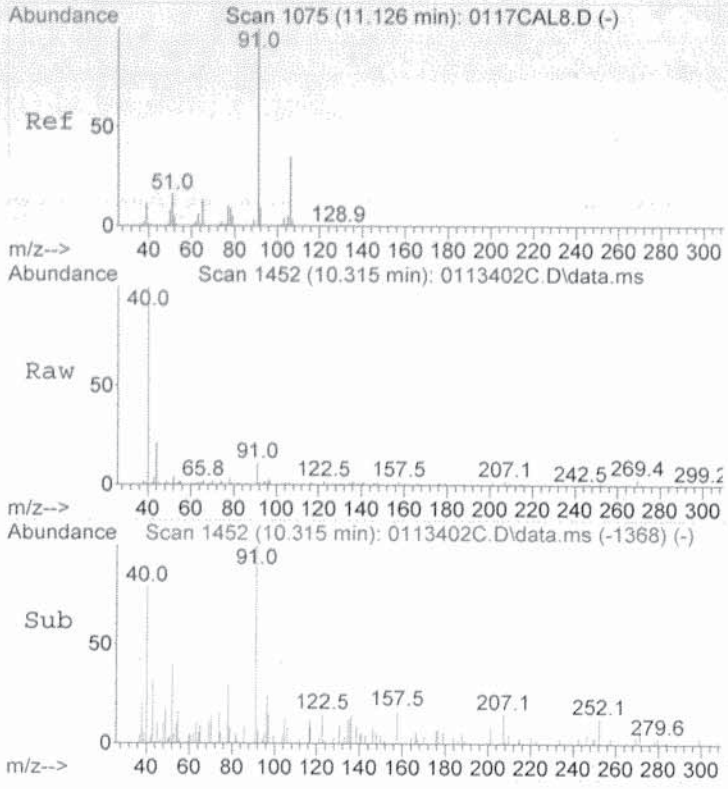
Data Path : C:\msdchem\1\DATA\021115V3\
Data File : 0113402C.D
Acq On : 11 Feb 2015 1:26 pm
Operator :
Sample : 1501134-02RE1
Misc : 1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Feb 12 08:41:50 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration



159

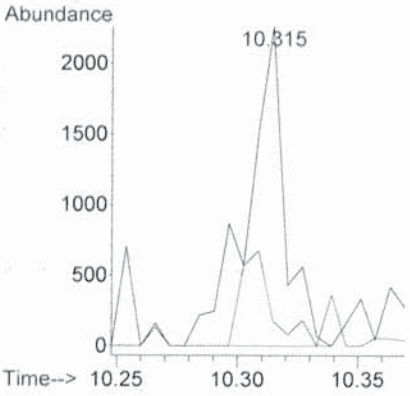
1501134

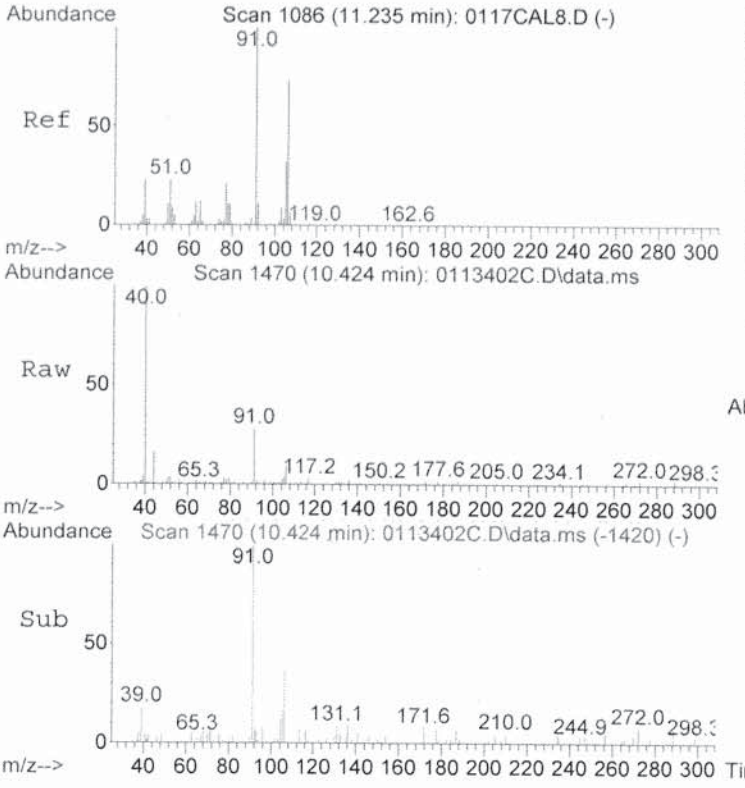


#73
Ethylbenzene
Concen: 0.0614 ug/L
RT: 10.315 min Scan# 1452
Delta R.T. 0.013 min
Lab File: 0113402C.D
Acq: 11 Feb 2015 1:26 pm

Tgt Ion: 91 Resp: 2457

Ion	Ratio	Lower	Upper
91	100		
106	22.2	26.2	39.4#

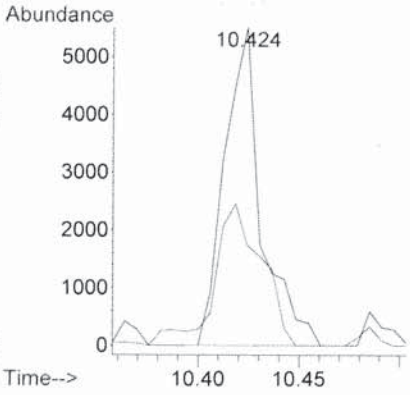


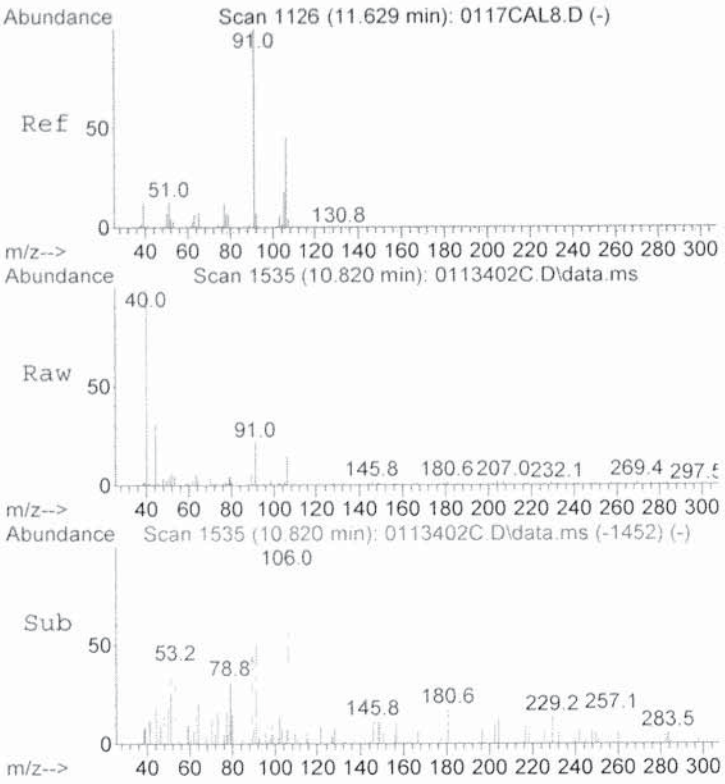


#74
m,p-Xylene
Concen: 0.2210 ug/L
RT: 10.424 min Scan# 1470
Delta R.T. 0.006 min
Lab File: 0113402C.D
Acq: 11 Feb 2015 1:26 pm

Tgt Ion: 91 Resp: 7001

Ion	Ratio	Lower	Upper
91	100		
106	58.2	41.2	61.8

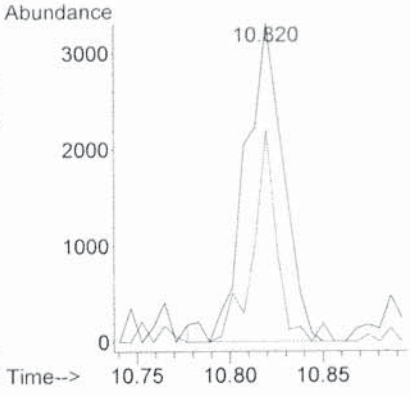




#76
o-Xylene
Concen: 0.1391 ug/L
RT: 10.820 min Scan# 1535
Delta R.T. 0.007 min
Lab File: 0113402C.D
Acq: 11 Feb 2015 1:26 pm

Tgt Ion: 91 Resp: 4745

Ion	Ratio	Lower	Upper
91	100		
106	40.8	38.5	57.7



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\021115V3\
Data File : 0113403C.D
Acq On : 11 Feb 2015 1:51 pm
Operator :
Sample : 1501134-03RE1 2XF
Misc : 2
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Feb 12 08:43:54 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	6.871	96	815038	30.00	ug/L		0.00
59) Chlorobenzene-d5	10.114	82	348570	30.00	ug/L		0.00
81) 1,4-Dichlorobenzene-d4	12.547	152	296636	30.00	ug/L	#	0.00
System Monitoring Compounds							
37) Dibromofluoromethane	5.789	111	233021	31.14	ug/L		0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 103.80%				
41) 1,2-Dichloroethane-d4	6.324	102	55220	30.44	ug/L		0.00
Spiked Amount 30.000	Range 70 - 120		Recovery = 101.47%				
60) Toluene-d8	8.642	98	819976	29.48	ug/L		0.00
Spiked Amount 30.000	Range 85 - 120		Recovery = 98.27%				
80) Bromofluorobenzene	11.337	95	298487	28.66	ug/L		0.00
Spiked Amount 30.000	Range 75 - 120		Recovery = 95.53%				
Target Compounds							Qvalue
9) Acetone	2.802	43	66413	13.8882	ug/L		95
20) Carbon disulfide	3.598	76	3437m	0.1675	ug/L		
23) 1,1-Dichloroethane	4.596	63	34474	2.1403	ug/L		93
31) cis-1,2-Dichloroethene	5.344	96	20034	2.4307	ug/L		92
40) 1,1,1-Trichloroethane	6.202	97	4141	0.3453	ug/L	#	80
46) Benzene	6.592	78	4790	0.1559	ug/L		95
48) Trichloroethene	7.389	95	13200	1.6428	ug/L		91
68) Tetrachloroethene	9.469	166	2841m	0.3547	ug/L		
73) Ethylbenzene	10.309	91	3761m	0.1073	ug/L		
74) m,p-Xylene	10.418	91	6280	0.2263	ug/L	#	78
76) o-Xylene	10.826	91	4100	0.1372	ug/L		86

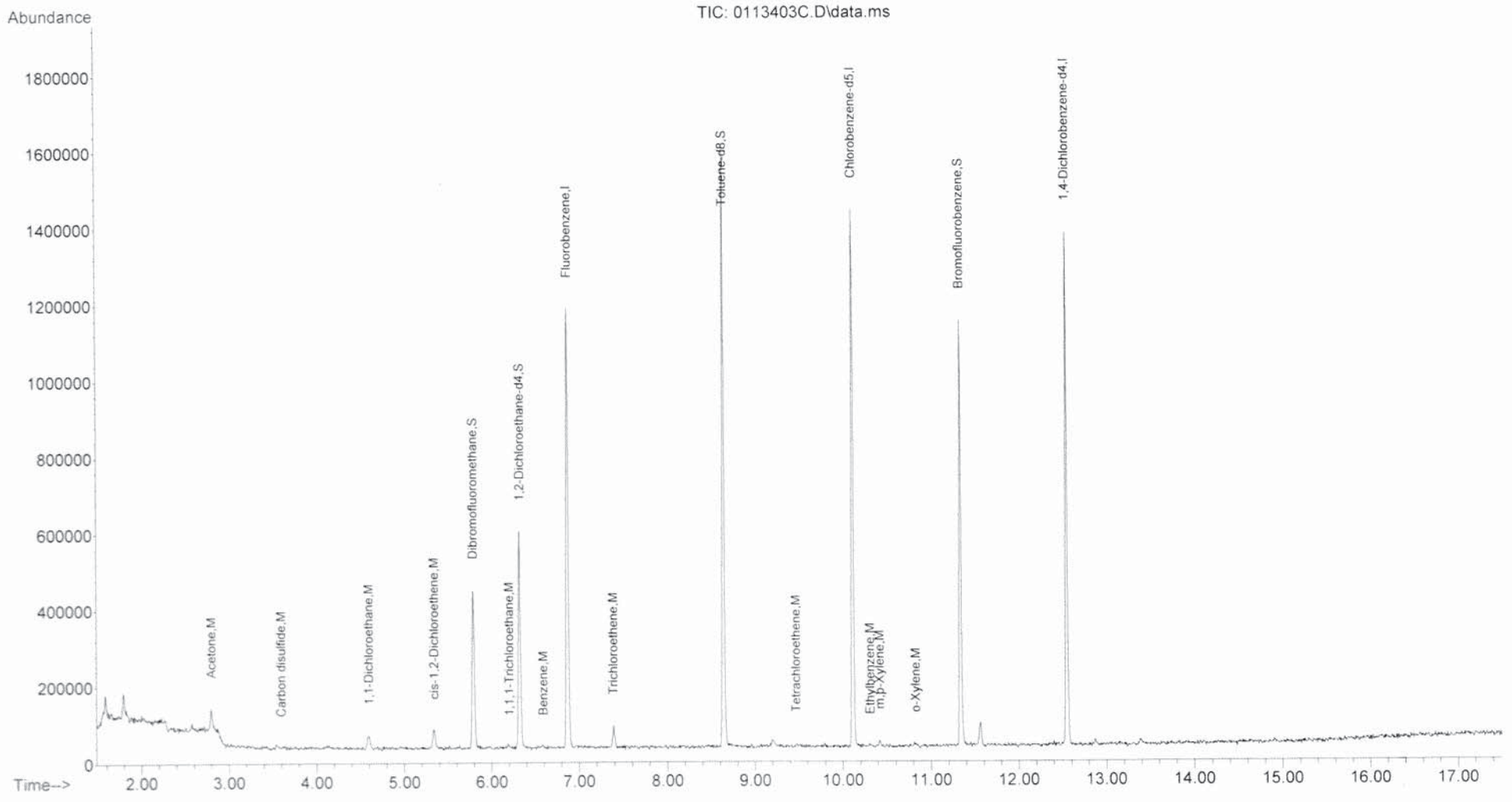
(#) = qualifier out of range (m) = manual integration (+) = signals summed

02/13/15

Quantitation Report (QT Reviewed)

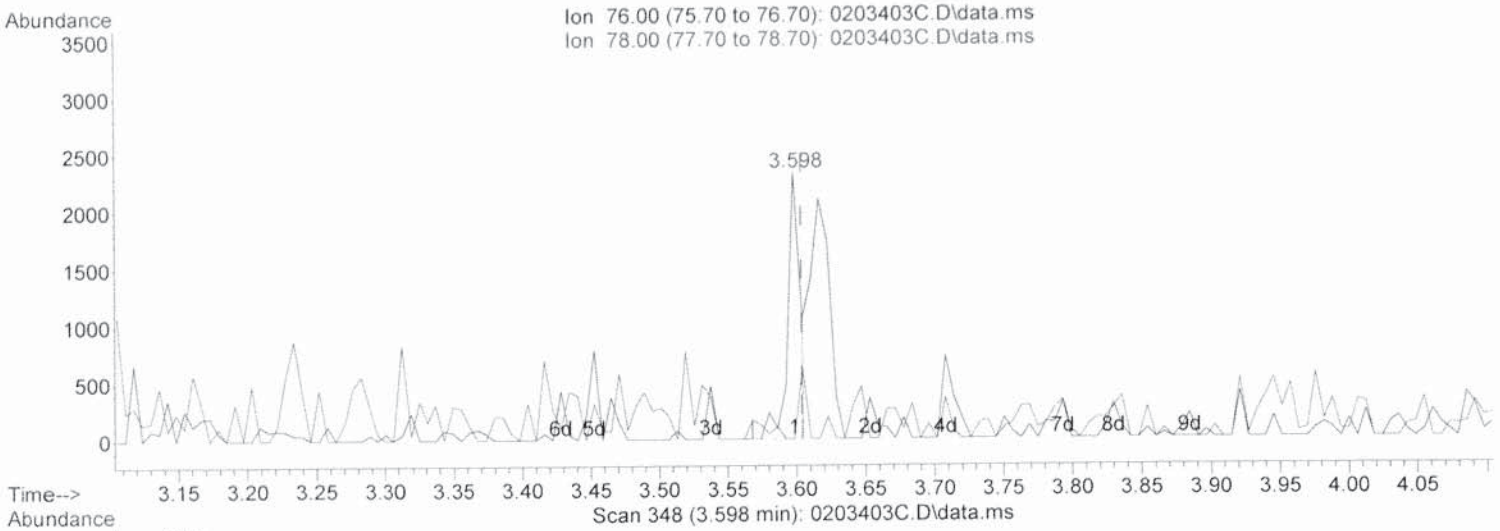
Data Path : C:\msdchem\1\DATA\021115V3\
Data File : 0113403C.D
Acq On : 11 Feb 2015 1:51 pm
Operator :
Sample : 1501134-03RE1 2XF
Misc : 2
ALS Vial : 14 Sample Multiplier: 1

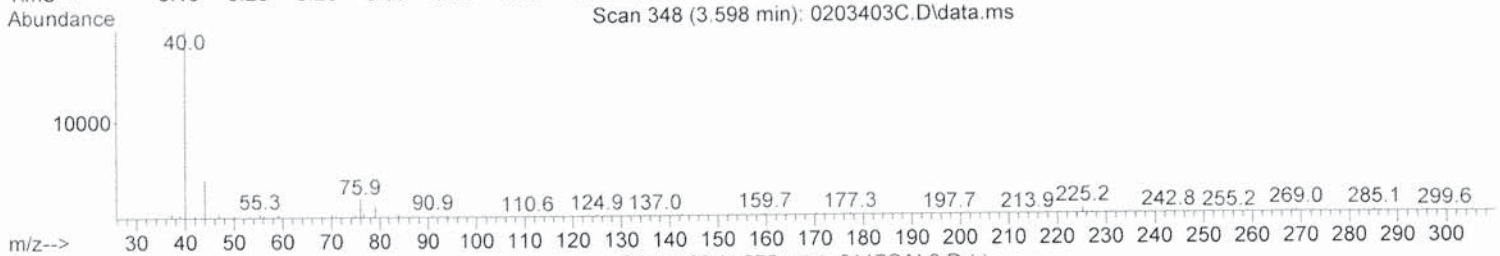
Quant Time: Feb 12 08:43:54 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

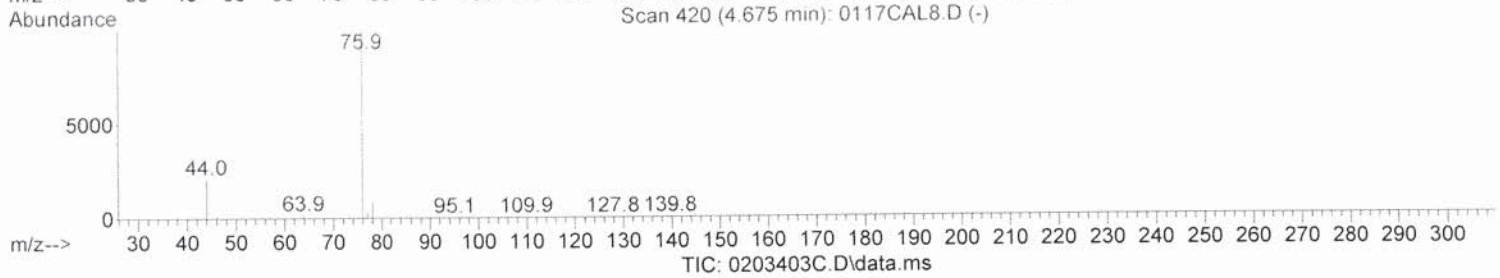


Data Path : C:\msdchem\1\DATA\021115V3\
Data File : 0203403C.D
Acq On : 11 Feb 2015 1:51 pm
Operator :
Sample : 1502034-03RE1 2XF
Misc : 2
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Feb 12 08:42:20 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration







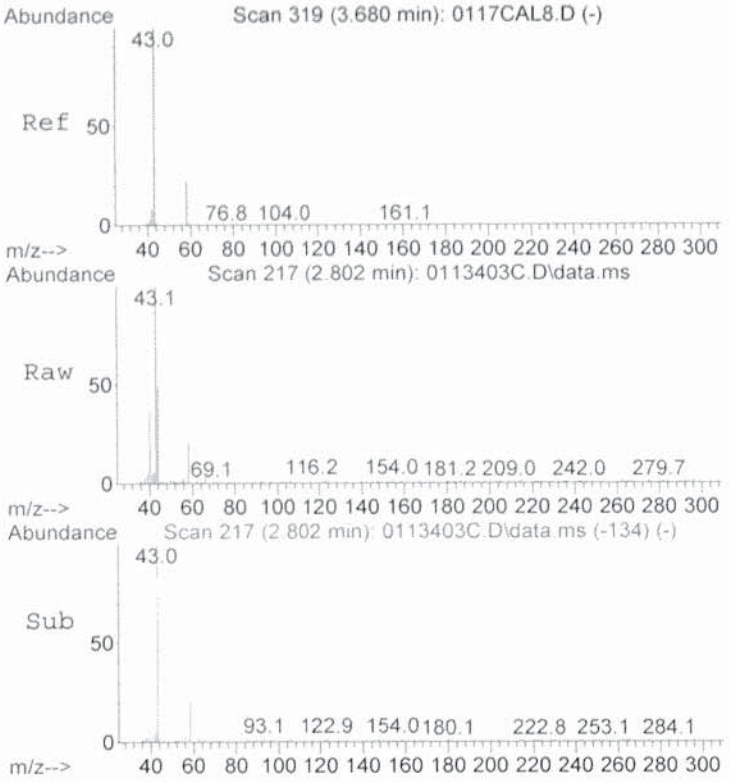
TIC: 0203403C.D\data.ms

(20) Carbon disulfide (M)

3.598min (-0.006) 0.07 ug/L

response 1518

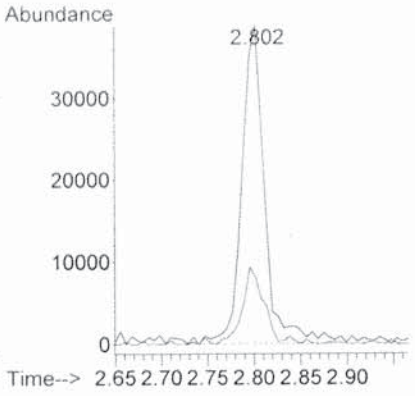
Ion	Exp%	Act%
76.00	100	100
78.00	9.20	15.22#
0.00	0.00	0.00
0.00	0.00	0.00

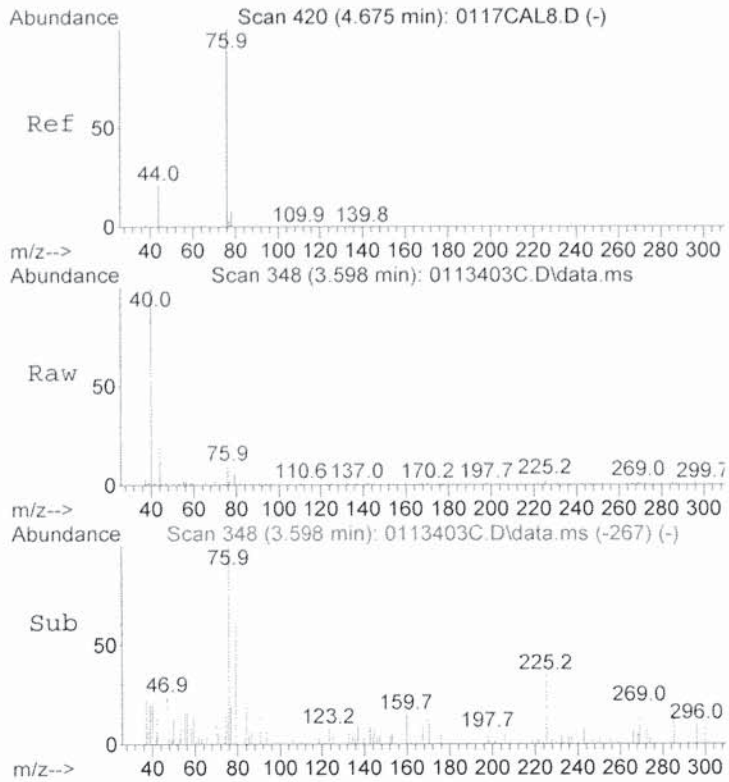


#9
Acetone
Concen: 13.8882 ug/L
RT: 2.802 min Scan# 217
Delta R.T. 0.007 min
Lab File: 0113403C.D
Acq: 11 Feb 2015 1:51 pm

Tgt Ion: 43 Resp: 66413

Ion	Ratio	Lower	Upper
43	100		
58	22.4	19.9	29.9

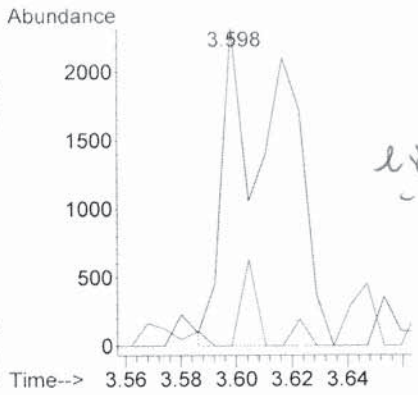


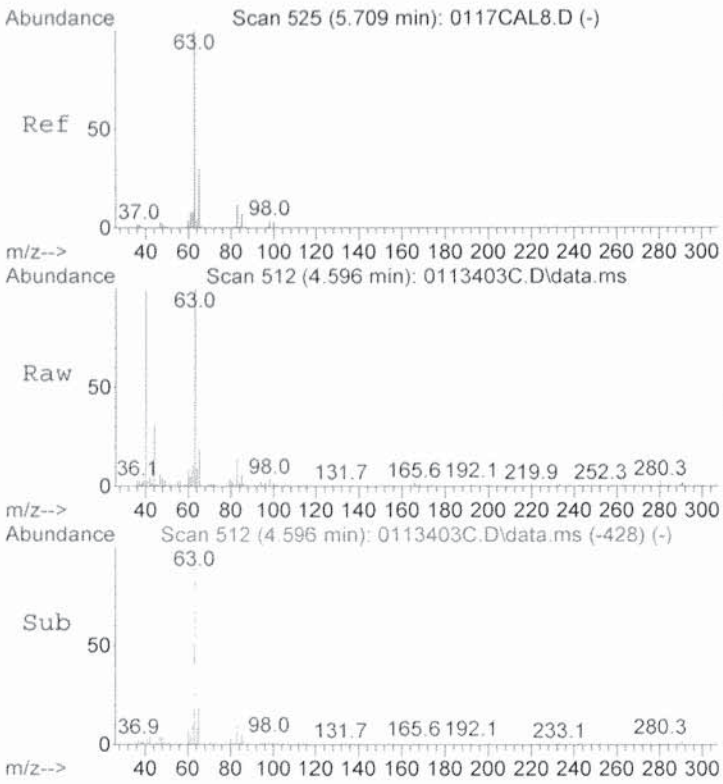


#20
Carbon disulfide
Concen: 0.1675 ug/L m
RT: 3.598 min Scan# 348
Delta R.T. -0.006 min
Lab File: 0113403C.D
Acq: 11 Feb 2015 1:51 pm

Tgt Ion: 76 Resp: 3437

Ion	Ratio	Lower	Upper
76	100		
78	6.7	7.4	11.0#

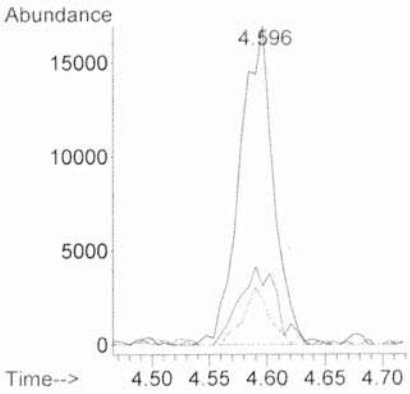


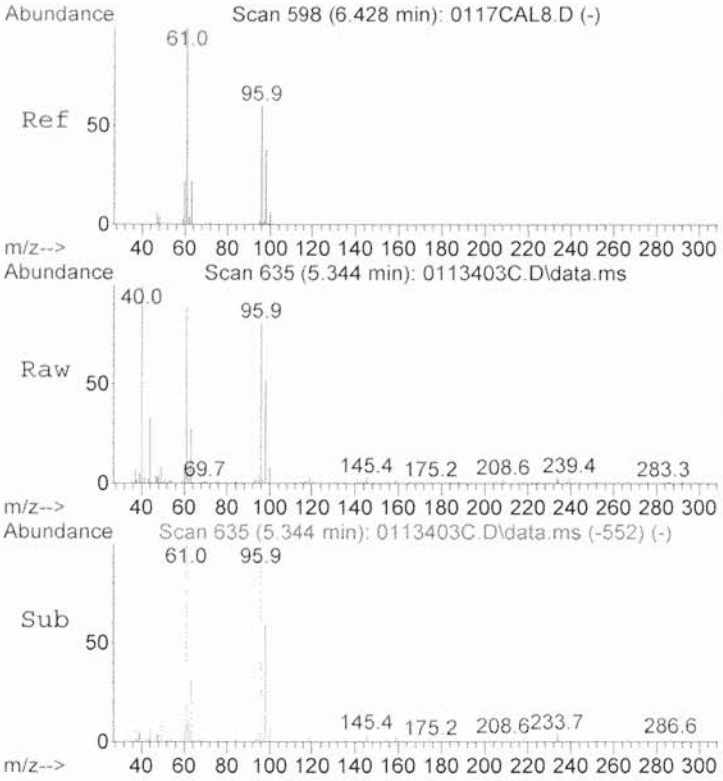


#23
1,1-Dichloroethane
Concen: 2.1403 ug/L
RT: 4.596 min Scan# 512
Delta R.T. 0.012 min
Lab File: 0113403C.D
Acq: 11 Feb 2015 1:51 pm

Tgt Ion: 63 Resp: 34474

Ion	Ratio	Lower	Upper
63	100		
65	27.2	25.3	37.9
83	14.3	9.7	14.5

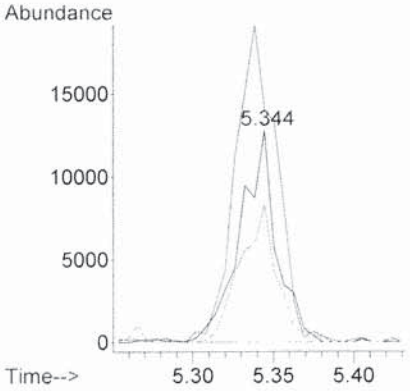


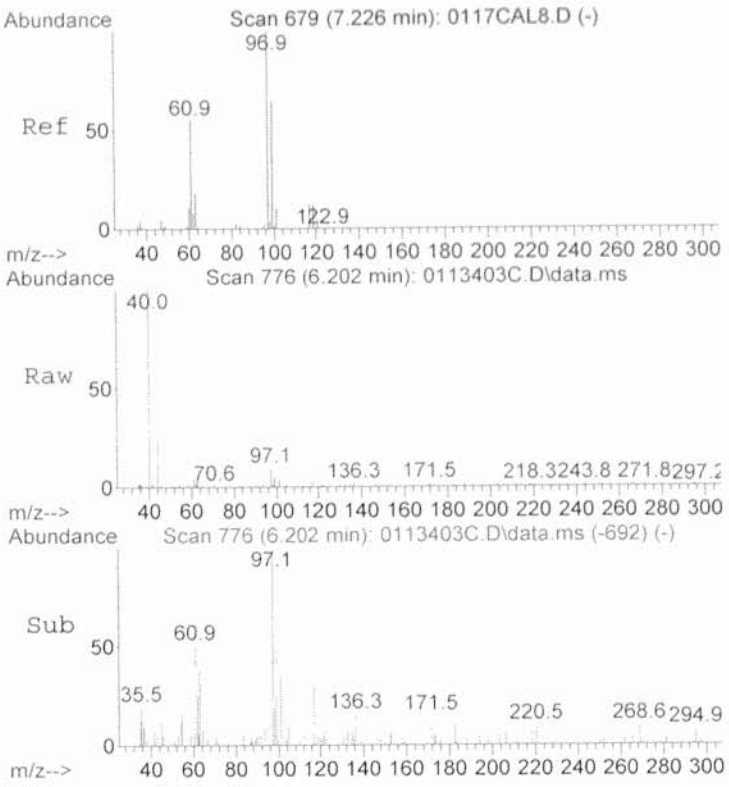


#31
cis-1,2-Dichloroethene
Concen: 2.4307 ug/L
RT: 5.344 min Scan# 635
Delta R.T. 0.006 min
Lab File: 0113403C.D
Acq: 11 Feb 2015 1:51 pm

Tgt Ion: 96 Resp: 20034

Ion	Ratio	Lower	Upper
96	100		
61	170.2	124.4	186.6
98	66.1	52.2	78.2

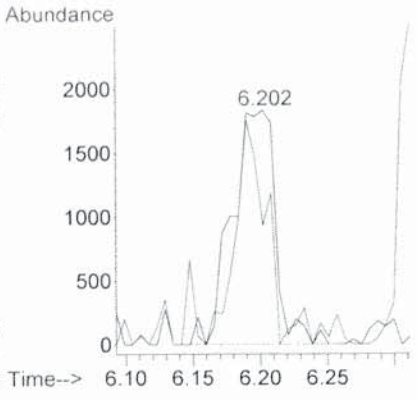


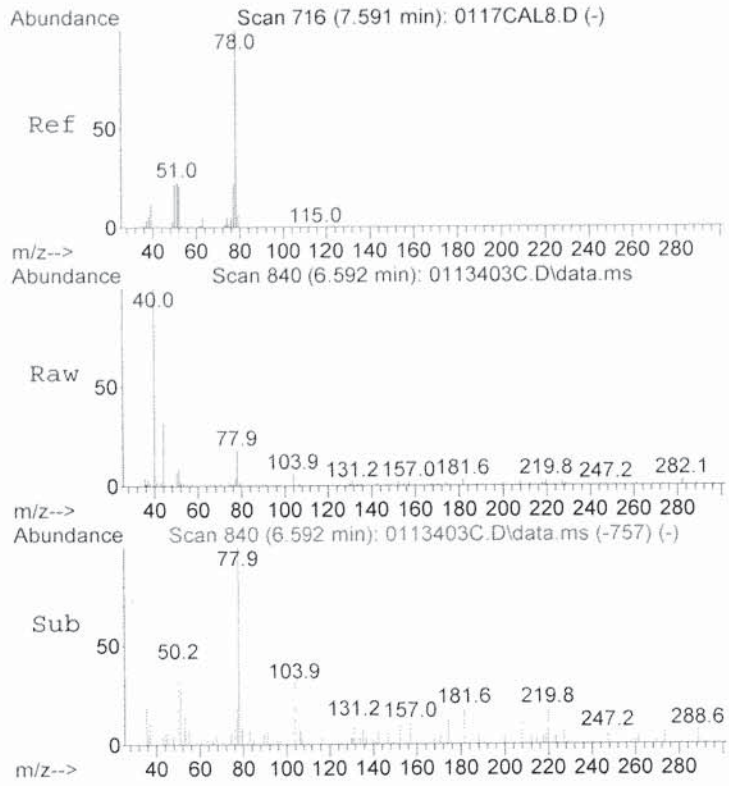


#40
1,1,1-Trichloroethane
Concen: 0.3453 ug/L
RT: 6.202 min Scan# 776
Delta R.T. 0.012 min
Lab File: 0113403C.D
Acq: 11 Feb 2015 1:51 pm

Tgt Ion: 97 Resp: 4141

Ion	Ratio	Lower	Upper
97	100		
61	66.2	41.8	62.8#

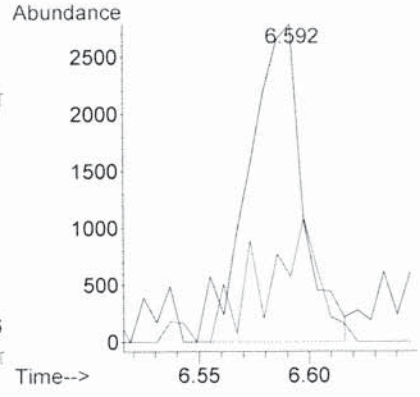




#46
Benzene
Concen: 0.1559 ug/L
RT: 6.592 min Scan# 840
Delta R.T. 0.007 min
Lab File: 0113403C.D
Acq: 11 Feb 2015 1:51 pm

Tgt Ion: 78 Resp: 4790

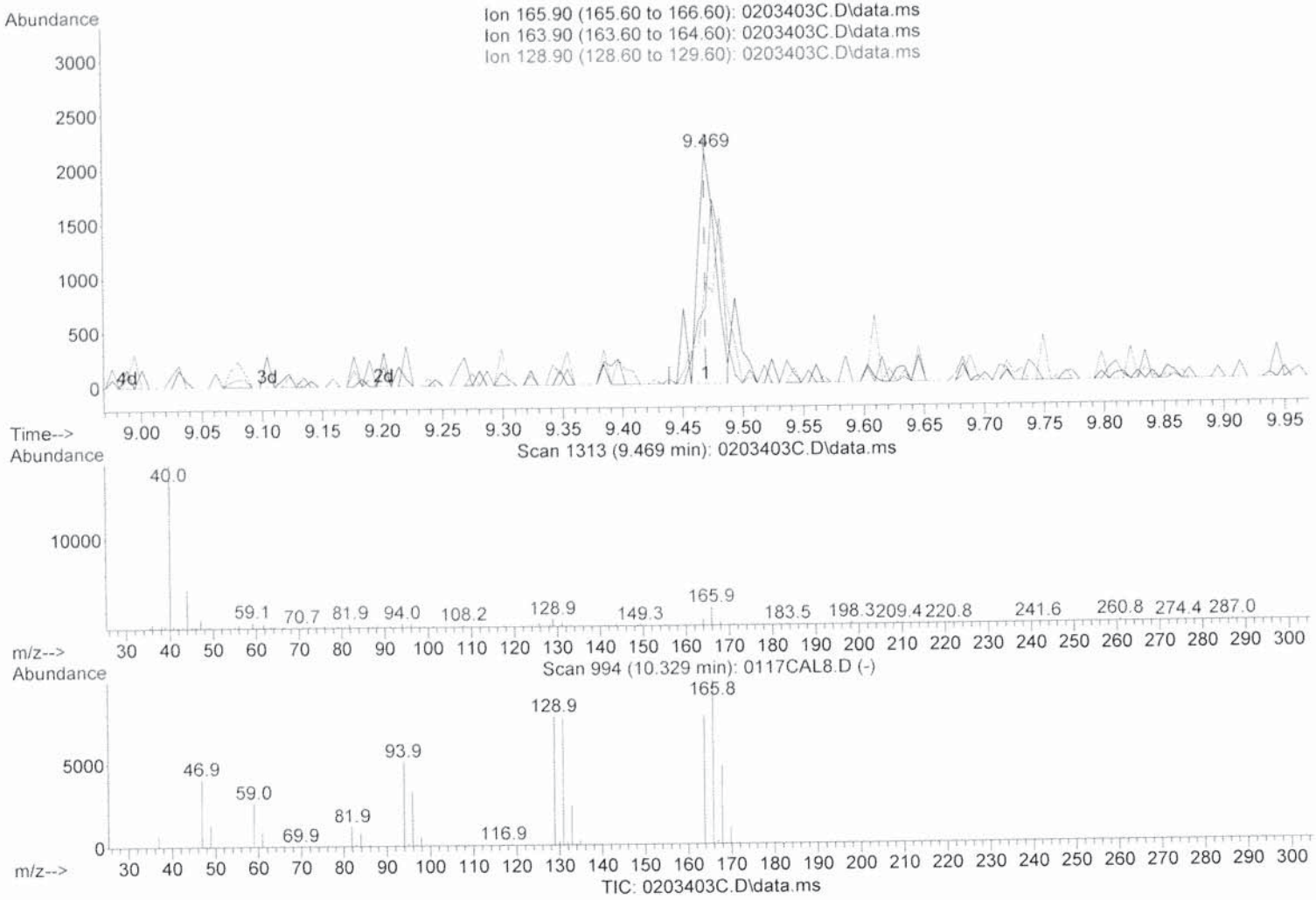
Ion	Ratio	Lower	Upper
78	100		
77	26.3	18.9	28.3



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\021115V3\
Data File : 0203403C.D
Acq On : 11 Feb 2015 1:51 pm
Operator :
Sample : 1502034-03RE1 2XF
Misc : 2
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Feb 12 08:42:20 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration

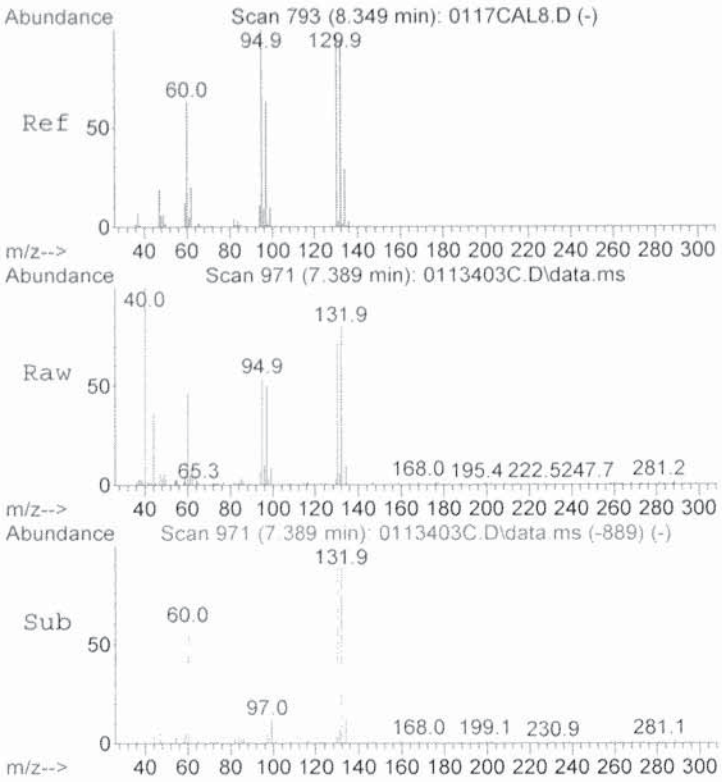


(68) Tetrachloroethene (M)

9.469min (+0.000) 0.30 ug/L

response 2376

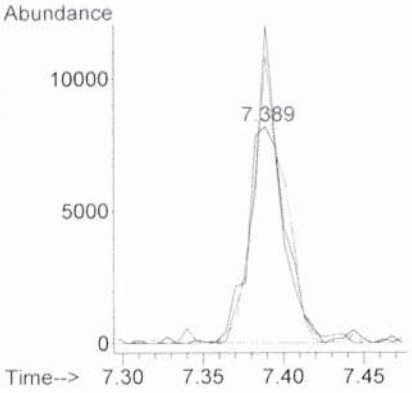
Ion	Exp%	Act%
165.90	100	100
163.90	78.30	77.69
128.90	76.50	79.84
0.00	0.00	0.00

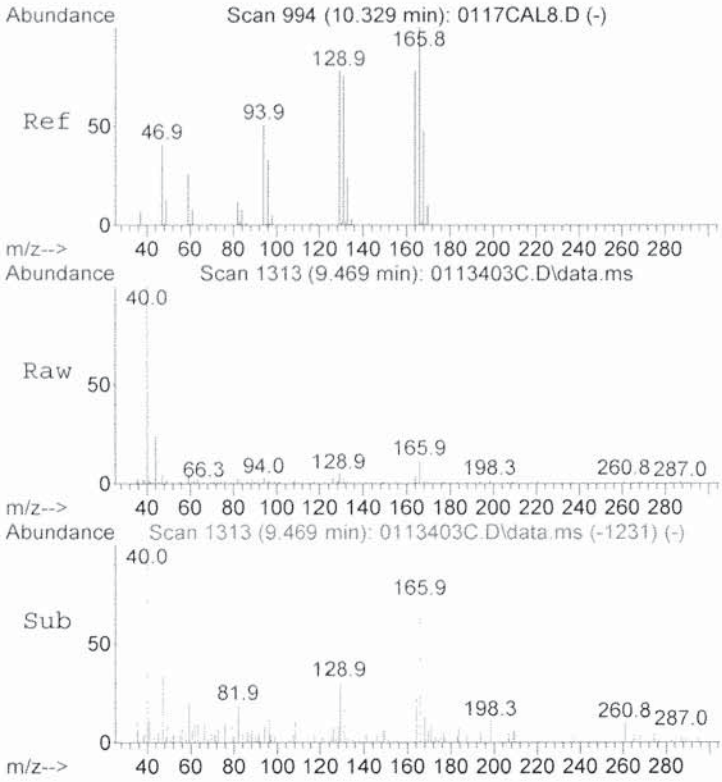


#48
Trichloroethene
Concen: 1.6428 ug/L
RT: 7.389 min Scan# 971
Delta R.T. 0.001 min
Lab File: 0113403C.D
Acq: 11 Feb 2015 1:51 pm

Tgt Ion: 95 Resp: 13200

Ion	Ratio	Lower	Upper
95	100		
132	109.3	76.6	114.8
130	107.3	82.5	123.7

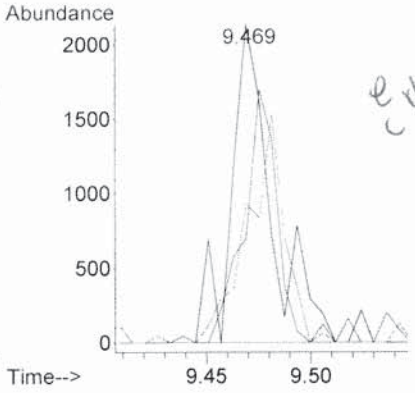




#68
Tetrachloroethene
Concen: 0.3547 ug/L m
RT: 9.469 min Scan# 1313
Delta R.T. 0.000 min
Lab File: 0113403C.D
Acq: 11 Feb 2015 1:51 pm

Tgt Ion:166 Resp: 2841

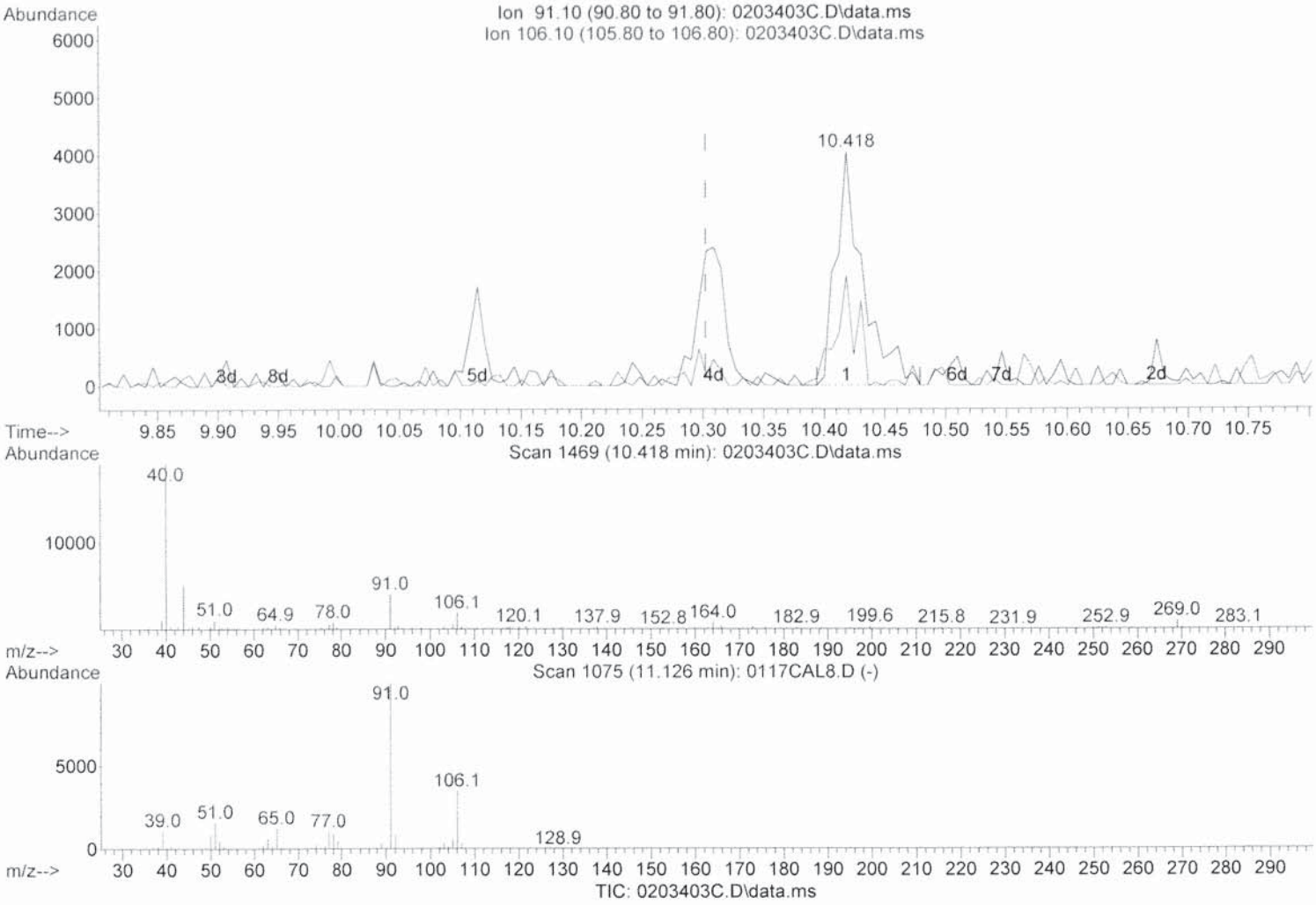
Ion	Ratio	Lower	Upper
166	100		
164	65.0	62.6	94.0
129	66.8	61.2	91.8



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\021115V3\
Data File : 0203403C.D
Acq On : 11 Feb 2015 1:51 pm
Operator :
Sample : 1502034-03RE1 2XF
Misc : 2
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Feb 12 08:42:20 2015
Quant Method : C:\msdchem\1\METHODS\101614W3.M
Quant Title : 8260B/C
QLast Update : Tue Oct 21 13:15:41 2014
Response via : Initial Calibration



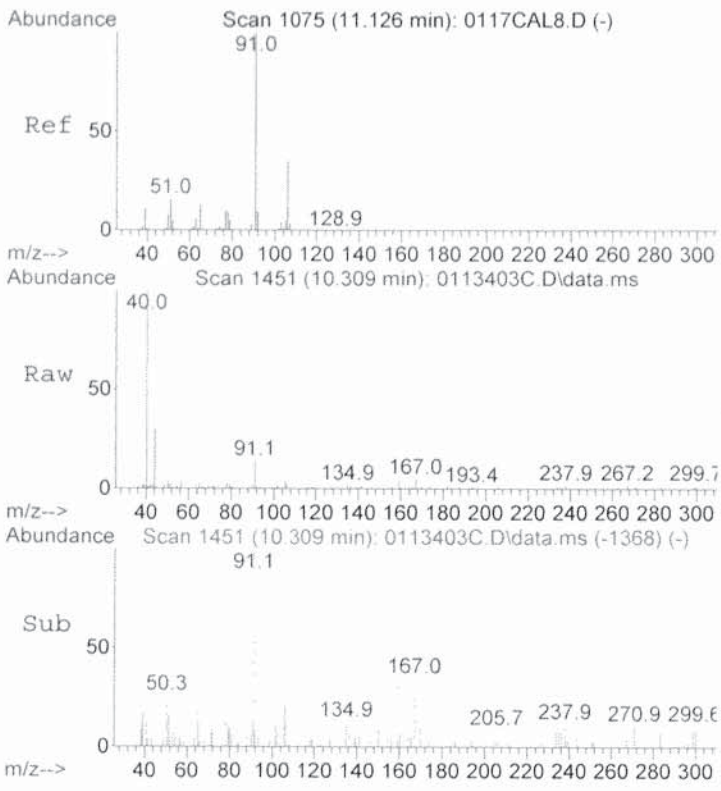
TIC: 0203403C.D\data.ms

(73) Ethylbenzene (M)

10.418min (+0.116) 0.18 ug/L

response 6280

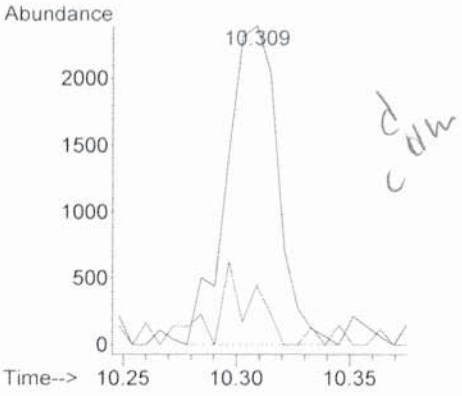
Ion	Exp%	Act%
91.10	100	100
106.10	32.80	36.32
0.00	0.00	0.00
0.00	0.00	0.00

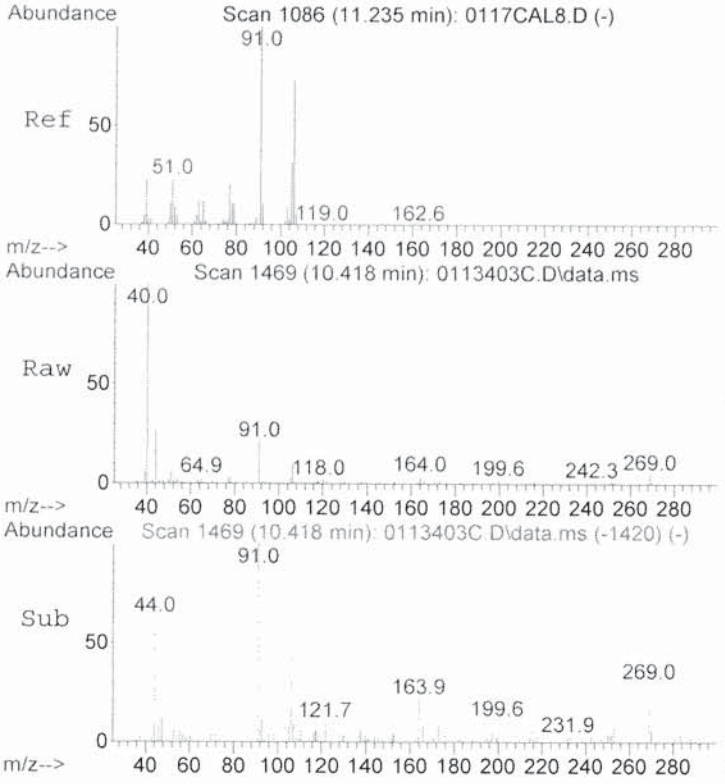


#73
Ethylbenzene
Concen: 0.1073 ug/L m
RT: 10.309 min Scan# 1451
Delta R.T. 0.007 min
Lab File: 0113403C.D
Acq: 11 Feb 2015 1:51 pm

Tgt Ion: 91 Resp: 3761

Ion	Ratio	Lower	Upper
91	100		
106	60.6	26.2	39.4#

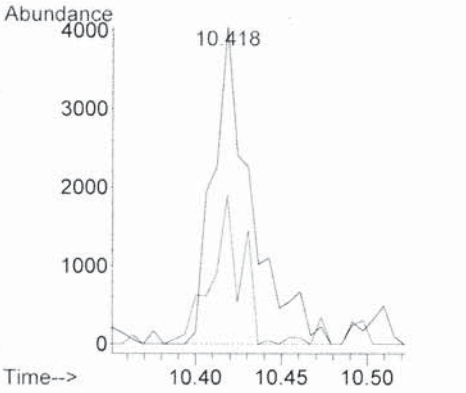


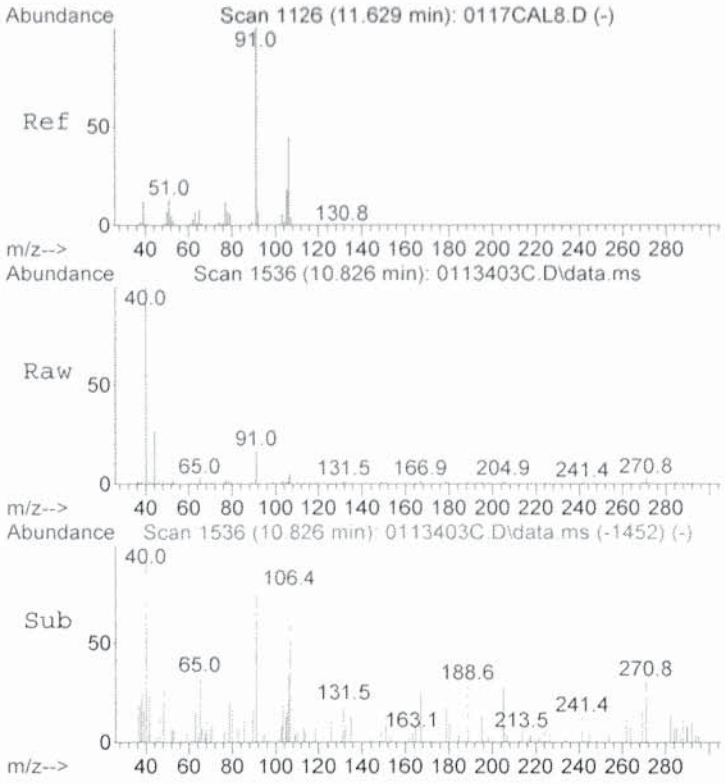


#74
m,p-Xylene
Concen: 0.2263 ug/L
RT: 10.418 min Scan# 1469
Delta R.T. 0.000 min
Lab File: 0113403C.D
Acq: 11 Feb 2015 1:51 pm

Tgt Ion: 91 Resp: 6280

Ion	Ratio	Lower	Upper
91	100		
106	36.3	41.2	61.8#

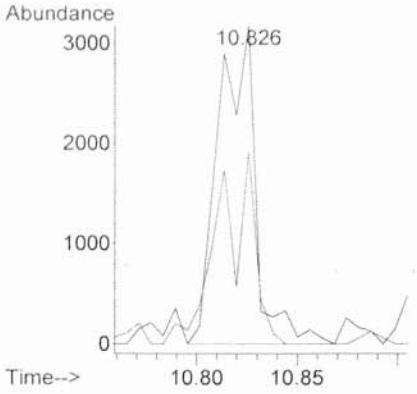




#76
o-Xylene
Concen: 0.1372 ug/L
RT: 10.826 min Scan# 1536
Delta R.T. 0.013 min
Lab File: 0113403C.D
Acq: 11 Feb 2015 1:51 pm

Tgt Ion: 91 Resp: 4100

Ion	Ratio	Lower	Upper
91	100		
106	57.4	38.5	57.7



PREPARATION BENCH SHEET

5B11007

Empirical Laboratories, LLC **Printed: 2/19/2015 1:19:57PM**

Instrument: VOA3

Matrix: Water **Prepared using: MS - 5030B** **Surrogate used: 14J0018**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID		ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
1501134-01RE1	B	VOC_8260B_REG	02/11/2015	5	5					1	2	;Re-extract added 2/10/2015 by GMH; rerun QC IS issues;Re-extract added 2/10/2015 by GMH; rerun QC IS issues-TB
1501134-02RE1	C	VOC_8260B_REG	02/11/2015	5	5					1	2	;Re-extract added 2/10/2015 by GMH; rerun QC IS issues;Re-extract added 2/10/2015 by GMH; rerun QC IS issues
1501134-03RE1	C	VOC_8260B_REG	02/11/2015	5	5					1	2	;Re-extract added 2/10/2015 by GMH; rerun QC IS issues 2XF;Re-extract added 2/10/2015 by GMH; rerun QC IS issues 2XF
1502017-02RE1	C	VOC_8260B_REG	02/11/2015	5	5					1	2	;Re-extract added 2/10/2015 by GMH; rerun 2XLF due to high SS and hits in sample;Re-extract added 2/10/2015 by GMH; rerun 2XLF due to high SS and hits in sample
1502019-17RE1	C	VOC_8260B_REG	02/11/2015	5	5					1	2	;Re-extract added 2/10/2015 by GMH; RERUN QC IS issues;Re-extract added 2/10/2015 by GMH; RERUN QC IS issues
1502019-19RE1	C	VOC_8260B_REG	02/11/2015	5	5					1	2	;Re-extract added 2/10/2015 by GMH; RERUN QC IS issues;Re-extract added 2/10/2015 by GMH; RERUN QC IS issues
1502023-01	B	VOC_8260B_REG_Q5	02/11/2015	5	5					1	2	;QSM5, select version;QSM5, select version-2X-LF
1502042-01	B	VOC_8260B_REG	02/11/2015	5	5					1	2	;Naphthalene must be reported / IS-ICAL;Naphthalene must be reported / IS-ICAL
1502042-03	B	VOC_8260B_REG	02/11/2015	5	5					1	2	;Naphthalene must be reported / IS-ICAL;Naphthalene must be reported / IS-ICAL
1502042-05	B	VOC_8260B_REG	02/11/2015	5	5					1	2	;Naphthalene must be reported / IS-ICAL;Naphthalene must be reported / IS-ICAL
1502042-07	B	VOC_8260B_REG	02/11/2015	5	5					1	2	;Naphthalene must be reported / IS-ICAL;Naphthalene must be reported / IS-ICAL
1502042-09	B	VOC_8260B_REG_Q5	02/11/2015	5	5					1	2	MS/MSD;BatchQC;Added for BatchQC in: 5B11007
1502042-09	B	VOC_8260B_REG	02/11/2015	5	5					1	2	MS/MSD;Naphthalene must be reported / IS-ICAL;Naphthalene must be reported / IS-ICAL
1502042-11	B	VOC_8260B_REG	02/11/2015	5	5					1	2	;Naphthalene must be reported / IS-ICAL;Naphthalene must be reported / IS-ICAL
1502042-13	B	VOC_8260B_REG	02/11/2015	5	5					1	2	;Naphthalene must be reported / IS-ICAL;Naphthalene must be reported / IS-ICAL
1502042-15	B	VOC_8260B_REG	02/11/2015	5	5					1	2	;Naphthalene must be reported / IS-ICAL;Naphthalene must be reported / IS-ICAL
1502042-17	B	VOC_8260B_REG	02/11/2015	5	5					1	2	;Naphthalene must be reported / IS-ICAL;Naphthalene must be reported / IS-ICAL

PREPARATION BENCH SHEET

5B11007

Empirical Laboratories, LLC **Printed: 2/19/2015 1:19:57PM**

Instrument: VOA3

Matrix: Water **Prepared using: MS - 5030B** **Surrogate used: 14J0018**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
1502042-19RE1	C	VOC_8260B_REG	02/11/2015	5	5				1	2	;Re-extract added 2/10/2015 by GMH; RERUN QC IS issues;Re-extract added 2/10/2015 by GMH; RERUN QC IS issues-AB
1502042-20RE1	B	VOC_8260B_REG	02/11/2015	5	5				1	2	;Re-extract added 2/10/2015 by GMH; RERUN QC IS issues;Re-extract added 2/10/2015 by GMH; RERUN QC IS issues-TB
1502045-01	B	VOC_8260B_REG_Q5	02/11/2015	5	5				1	2	;QSM5, select version;QSM5, select version
5B11007-BLK1		QC	02/11/2015	5	5				1	NA	
5B11007-BS1		QC	02/11/2015	5	5	15B0170		2.5	1	NA	
5B11007-MS1		QC	02/11/2015	5	5	15B0170	1502042-09	2.5	1	NA	
5B11007-MSD1		QC	02/11/2015	5	5	15B0170	1502042-09	2.5	1	NA	

Reagents Used:

Standard	Description
14F0692	Anti-foam-GE_AF72
15A0032	ph paper 1-12

Data for RSK 175
Forms

Sample Extraction Data

Prep Method: RSK175-RSK175

Lab Number [Field ID]	Batch	Nominal Initial/Final	Initial [mL]	Final [mL]	Dilution	% Solids	Notes	Date
1501134-03 [48MW06]	5B04002	15.00/15.00	15.0	15.0	1.00			02/04/15

ANALYSIS DATA SHEET

48MW06

Laboratory:	Empirical Laboratories, LLC			SDG:	1501134
Client:	CB&I			Project:	Radford AAP
Matrix:	Water	Laboratory ID:	1501134-03	File ID:	028F2801.D\Report.TXT
Sampled:	01/29/15 11:35	Prepared:	02/04/15 07:09	Analyzed:	02/04/15 17:40
Solids:		Preparation:	RSK175	Dilution:	1
Batch:	5B04002	Sequence:	5B03704	Calibration:	4335002
Instrument:	GL-GCVOA				

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane		1.00	2.00	4.00	U
74-84-0	Ethane		1.00	2.00	4.00	U
74-85-1	Ethene		1.00	2.00	4.00	U

Total Target Analytes Reported 3 Project Analytes: 3

LCS / LCS DUPLICATE RECOVERY

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134
Client:	CB&I	Project:	Radford AAP
Matrix:	Water		
Batch:	5B04002	Laboratory ID:	5B04002-BS1
Preparation:	RSK175	Initial/Final:	15 mL / 15 mL

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	QC LIMITS REC.
Methane	253.4	257.4	102	80 - 120
Ethane	485.3	495.3	102	80 - 120
Ethene	520.6	567.0	109	80 - 120

PREPARATION BATCH SUMMARY

RSK175

Laboratory: Empirical Laboratories, LLC SDG: 1501134

Client: CB&I Project: Radford AAP

Batch: 5B04002 Batch Matrix: Water Preparation: RSK175

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
48MW06	1501134-03	02/04/15 07:09	15.00	15.00
Blank	5B04002-BLK1	02/04/15 07:09	15.00	15.00
LCS	5B04002-BS1	02/04/15 07:09	15.00	15.00

ANALYSIS DATA SHEET

Blank

Laboratory: Empirical Laboratories, LLC SDG: 1501134

Client: CB&I Project: Radford AAP

Matrix: Laboratory ID: 5B04002-BLK1 File ID: 003F0301.D\Report.TXT

Sampled: Prepared: Analyzed: 02/04/15 12:01

Solids: Preparation: RSK175 Dilution:

Batch: 5B04002 Sequence: 5B03704 Calibration: 4335002 Instrument: GL-GCVOA

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane		1.00	2.00	4.00	U
74-84-0	Ethane		1.00	2.00	4.00	U
74-85-1	Ethene		1.00	2.00	4.00	U

Total Target Analytes Reported: 3

ANALYSIS DATA SHEET

LCS

Laboratory: Empirical Laboratories, LLC SDG: 1501134

Client: CB&I Project: Radford AAP

Matrix: Laboratory ID: 5B04002-BS1 File ID: 004F0401.D\Report.TXT

Sampled: Prepared: Analyzed: 02/04/15 12:14

Solids: Preparation: RSK175 Dilution:

Batch: 5B04002 Sequence: 5B03704 Calibration: 4335002 Instrument: GL-GCVOA

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
74-82-8	Methane	**257.4**	1.00	2.00	4.00	
74-84-0	Ethane	**495.3**	1.00	2.00	4.00	
74-85-1	Ethene	**567.0**	1.00	2.00	4.00	

Total Target Analytes Reported: 3

INITIAL CALIBRATION STANDARDS

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134
Client:	CB&I	Project:	Radford AAP
Sequence:	4L33506	Instrument:	GL-GCVOA
Calibration:	4335002		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
14K0664	MEE CAL1 STD@0.005 ON COLUMN	4L33506-CAL1	002F0201.D\Report.TXT	11/30/14 22:55
14K0665	MEE CAL2 STD@0.01 ON COLUMN	4L33506-CAL2	003F0301.D\Report.TXT	11/30/14 23:09
14K0666	MEE CAL3 STD@0.02 ON COLUMN	4L33506-CAL3	004F0401.D\Report.TXT	11/30/14 23:22
14K0667	MEE CAL4 STD@0.1 ON COLUMN	4L33506-CAL4	005F0501.D\Report.TXT	11/30/14 23:36
14K0668	MEE CAL5 STD@0.2 ON COLUMN	4L33506-CAL5	006F0601.D\Report.TXT	11/30/14 23:49
14K0669	MEE CAL6 STD@1.0 ON COLUMN	4L33506-CAL6	007F0701.D\Report.TXT	12/01/14 00:03
14K0670	MEE CAL7 STD@2.0 ON COLUMN	4L33506-CAL7	008F0801.D\Report.TXT	12/01/14 00:17
14K0671	MEE CAL8 STD@4.0 ON COLUMN	4L33506-CAL8	009F0901.D\Report.TXT	12/01/14 00:30

ANALYSIS SEQUENCE SUMMARY

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134
Client:	CB&I	Project:	Radford AAP
Sequence:	4L33506	Instrument:	GL-GCVOA
Calibration:	4335002		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	4L33506-CAL1	002F0201.D\Report.TXT	11/30/14 22:55
Cal Standard	4L33506-CAL2	003F0301.D\Report.TXT	11/30/14 23:09
Cal Standard	4L33506-CAL3	004F0401.D\Report.TXT	11/30/14 23:22
Cal Standard	4L33506-CAL4	005F0501.D\Report.TXT	11/30/14 23:36
Cal Standard	4L33506-CAL5	006F0601.D\Report.TXT	11/30/14 23:49
Cal Standard	4L33506-CAL6	007F0701.D\Report.TXT	12/01/14 00:03
Cal Standard	4L33506-CAL7	008F0801.D\Report.TXT	12/01/14 00:17
Cal Standard	4L33506-CAL8	009F0901.D\Report.TXT	12/01/14 00:30
Initial Cal Check	4L33506-ICV1	010F1001.D\Report.TXT	12/01/14 00:44

ANALYSIS SEQUENCE SUMMARY

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134
Client:	CB&I	Project:	Radford AAP
Sequence:	5B03704	Instrument:	GL-GCVOA
Calibration:	4335002		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	5B03704-CCV1	002F0201.D\Report.TXT	02/04/15 11:47
Blank	5B04002-BLK1	003F0301.D\Report.TXT	02/04/15 12:01
LCS	5B04002-BS1	004F0401.D\Report.TXT	02/04/15 12:14
Calibration Check	5B03704-CCV2	017F1701.D\Report.TXT	02/04/15 15:11
48MW06	1501134-03	028F2801.D\Report.TXT	02/04/15 17:40
Calibration Check	5B03704-CCV3	029F2901.D\Report.TXT	02/04/15 17:54

INITIAL CALIBRATION DATA

RSK175

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Calibration: 4335002
Instrument: GL-GCVOA
Matrix: Water
Calibration Dates: 11/30/14 22:55 12/1/14 0:30

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	DE*1000	RF	DE*1000	RF	DE*1000	RF	DE*1000	RF	DE*1000	RF	DE*1000	RF
Methane	0.005	~~820080.2~~	0.01	700057.9	0.02	520560	0.1	462402	0.2	447276.5	1	422586
Ethane	0.005	636984.8	0.01	567037.7	0.02	535110	0.1	583987	0.2	578530	1	582713
Ethene	0.005	526654.2	0.01	472928	0.02	494285.5	0.1	583965	0.2	596060	1	586832
Acetylene (outside certification)	0.005		0.01		0.02		0.1		0.2		1	

INITIAL CALIBRATION DATA (Continued)

RSK175

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Calibration: 4335002
Instrument: GL-GCVOA
Matrix: Water
Calibration Dates: 11/30/14 22:55 12/1/14 0:30

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	DE*1000	RF	DE*1000	RF	DE*1000	RF	DE*1000	RF	DE*1000	RF	DE*1000	RF
Methane	2	354606.5	4	302757.5								
Ethane	2	495891.5	4	423852.5								
Ethene	2	499674	4	424570								
Acetylene (outside certification)	2		4									

INITIAL CALIBRATION DATA (Continued)

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134
Client:	CB&I	Project:	Radford AAP
Calibration:	4335002	Instrument:	GL-GCVOA
Matrix:	Water	Calibration Dates:	11/30/14 22:55 12/1/14 0:30

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Methane	458606.6	27.96427	0.8102857	0.9003783		0.9991859	0.99	
Ethane	550513.3	11.88305	6.731875	0.2221914			20	
Ethene	523121.1	11.80749	5.9265	0.2719457			20	
Acetylene (outside certification)							20	

Per current DoD QSM requirements, effective 03/17/2014, Empirical has updated the linear calibration coefficient requirements to reflect a limit of 0.990 for "r2" rather than the previously reported limit of 0.995 for "r". The change in assessment criteria is consistent with regulatory requirements.

INITIAL CALIBRATION CHECK

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134
Client:	CB&I	Project:	Radford AAP
Instrument ID:	GL-GCVOA	Calibration:	4335002
Lab File ID:	010F1001.D\Report.TXT	Calibration Date:	11/30/14 10:55
Sequence:	4L33506	Injection Date:	12/01/14
Lab Sample ID:	4L33506-ICV1	Injection Time:	00:44

		CONC. (DE*1000)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Methane	Q	1.000	0.9059	458607	363070		-9.4	20
Ethane	A	1.000	0.9203	550513	506658		-7.966	20
Ethene	A	1.000	0.9708	523121	507854		-2.918	20

CONTINUING CALIBRATION CHECK

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134
Client:	CB&I	Project:	Radford AAP
Instrument ID:	GL-GCVOA	Calibration:	4335002
Lab File ID:	002F0201.D\Report.TXT	Calibration Date:	11/30/14 10:55
Sequence:	5B03704	Injection Date:	02/04/15
Lab Sample ID:	5B03704-CCV1	Injection Time:	11:47

		CONC. (DE*1000)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	Q	1.000	1.068	458607	421863		6.8	20
Ethane	A	1.000	1.078	550513	593307		7.773	20
Ethene	A	1.000	1.197	523121	625981		19.66	20

CONTINUING CALIBRATION CHECK

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134
Client:	CB&I	Project:	Radford AAP
Instrument ID:	GL-GCVOA	Calibration:	4335002
Lab File ID:	017F1701.D\Report.TXT	Calibration Date:	11/30/14 10:55
Sequence:	5B03704	Injection Date:	02/04/15
Lab Sample ID:	5B03704-CCV2	Injection Time:	15:11

		CONC. (DE*1000)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	Q	1.000	0.9911	458607	394075		-0.9	20
Ethane	A	1.000	1.010	550513	555950		0.9876	20
Ethene	A	1.000	1.085	523121	567743		8.53	20

CONTINUING CALIBRATION CHECK

RSK175

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134
Client:	CB&I	Project:	Radford AAP
Instrument ID:	GL-GCVOA	Calibration:	4335002
Lab File ID:	029F2901.D\Report.TXT	Calibration Date:	11/30/14 10:55
Sequence:	5B03704	Injection Date:	02/04/15
Lab Sample ID:	5B03704-CCV3	Injection Time:	17:54

		CONC. (DE*1000)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Methane	Q	1.000	0.9546	458607	380852		-4.5	20
Ethane	A	1.000	0.9680	550513	532920		-3.196	20
Ethene	A	1.000	0.9807	523121	513049		-1.925	20

HOLDING TIME SUMMARY

RSK175

Laboratory: Empirical Laboratories, LLC SDG: 1501134

Client: CB&I Project: Radford AAP

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
48MW06	01/29/15 11:35	01/30/15 08:35	02/04/15 07:09	N/A	14.00	02/04/15 17:40	6.30	14.00	

Data for RSK 175
Supporting Raw Data / Logs

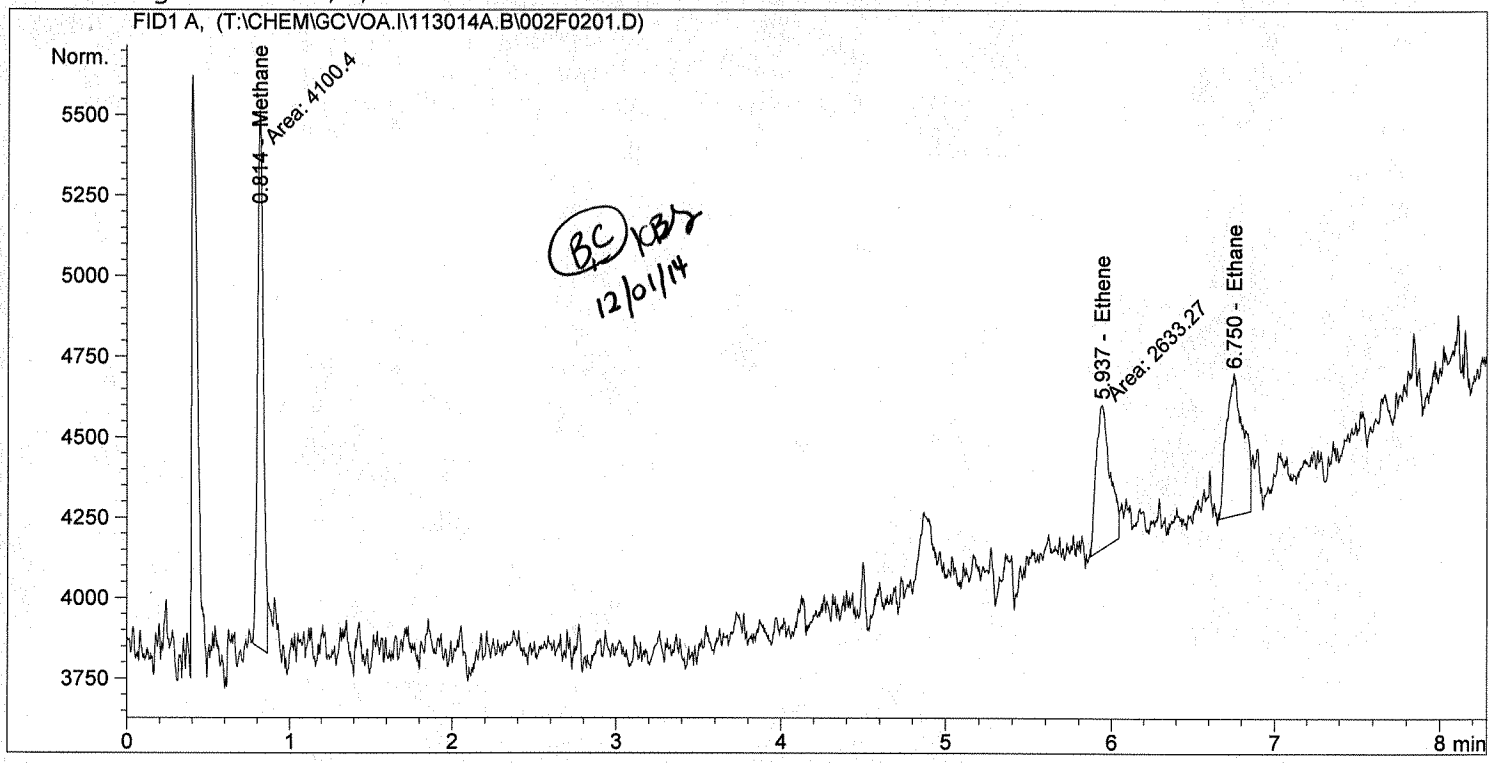
Partial Sequence: C:\HPCHEM\1\SEQUENCE\113014A.S \GCnoA\FID\MEE

PG 834

Sel	Run	Location	Method	Datafile	SeqTable	Calib:RF:RT	Sample Name
No	1	Vial 1	MEE-FAST	001F0101		F:01:01	Int Blk
No	2	Vial 2	MEE-FAST	002F0201		F:02:01	SEQ-CAL1 ID#14K0664
No	3	Vial 3	MEE-FAST	003F0301		F:03:01	SEQ-CAL2 665
No	4	Vial 4	MEE-FAST	004F0401		F:04:01	SEQ-CAL3 666
No	5	Vial 5	MEE-FAST	005F0501		F:05:01	SEQ-CAL4 667
No	6	Vial 6	MEE-FAST	006F0601		F:06:01	SEQ-CAL5 668
No	7	Vial 7	MEE-FAST	007F0701		F:07:01	SEQ-CAL6 669
No	8	Vial 8	MEE-FAST	008F0801		F:08:01	SEQ-CAL7 670
No	9	Vial 9	MEE-FAST	009F0901		F:09:01	SEQ-CAL8 671
No	10	Vial 10	MEE-FAST	010F1001		F:10:01	SEQ-ICV1 672

Data File T:\CHEM\GCVOA.I\113014A.B\002F0201.D
Sample Name: SEQ-CAL1

```
==========================================================================
Acq. Operator    :                                  Seq. Line :   2
Acq. Instrument  : GCVOA                             Location : Vial 2
Injection Date   : 11/30/2014 10:55:40 PM                Inj :   1
                                                  Inj Volume : Manually
Acq. Method      : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed     : 9/8/2011 1:56:36 PM by RDW
Analysis Method  : T:\CHEM\GCVOA.I\112614.B\113014MEE.M
Last changed     : 12/1/2014 12:02:47 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      12/1/2014 11:57:38 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs
```

12/02/14

```
Signal 1: FID1 A,

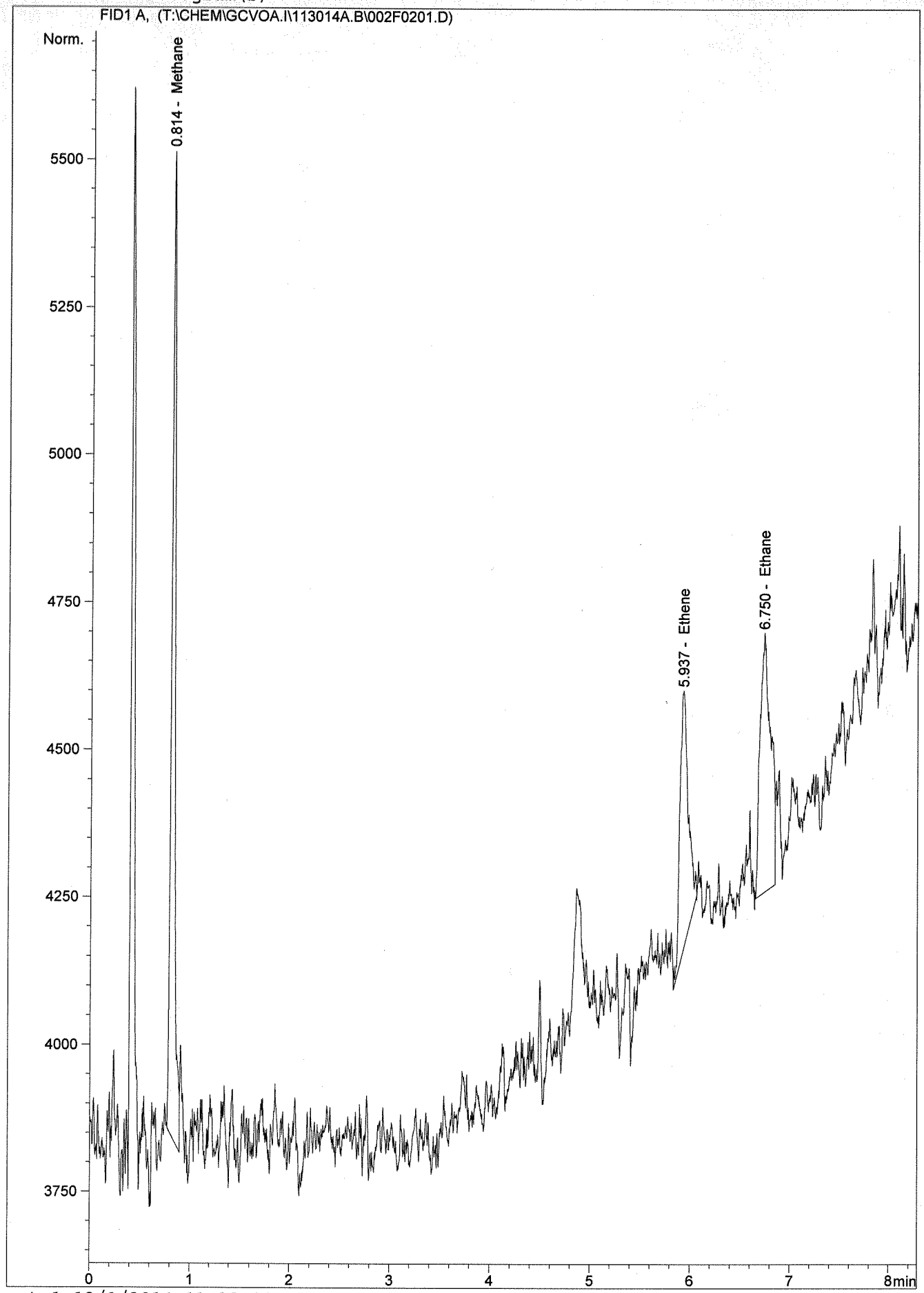
RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                 [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.814 MF   +  4100.40137    0.00000    0.00000-   Methane
  5.937 MF   +  2633.27100 1.91160e-6 5.03377e-3    Ethene
  6.750 BV   +  3184.92358 1.81649e-6 5.78537e-3    Ethane

Totals :                               1.08191e-2


3 Warnings or Errors :

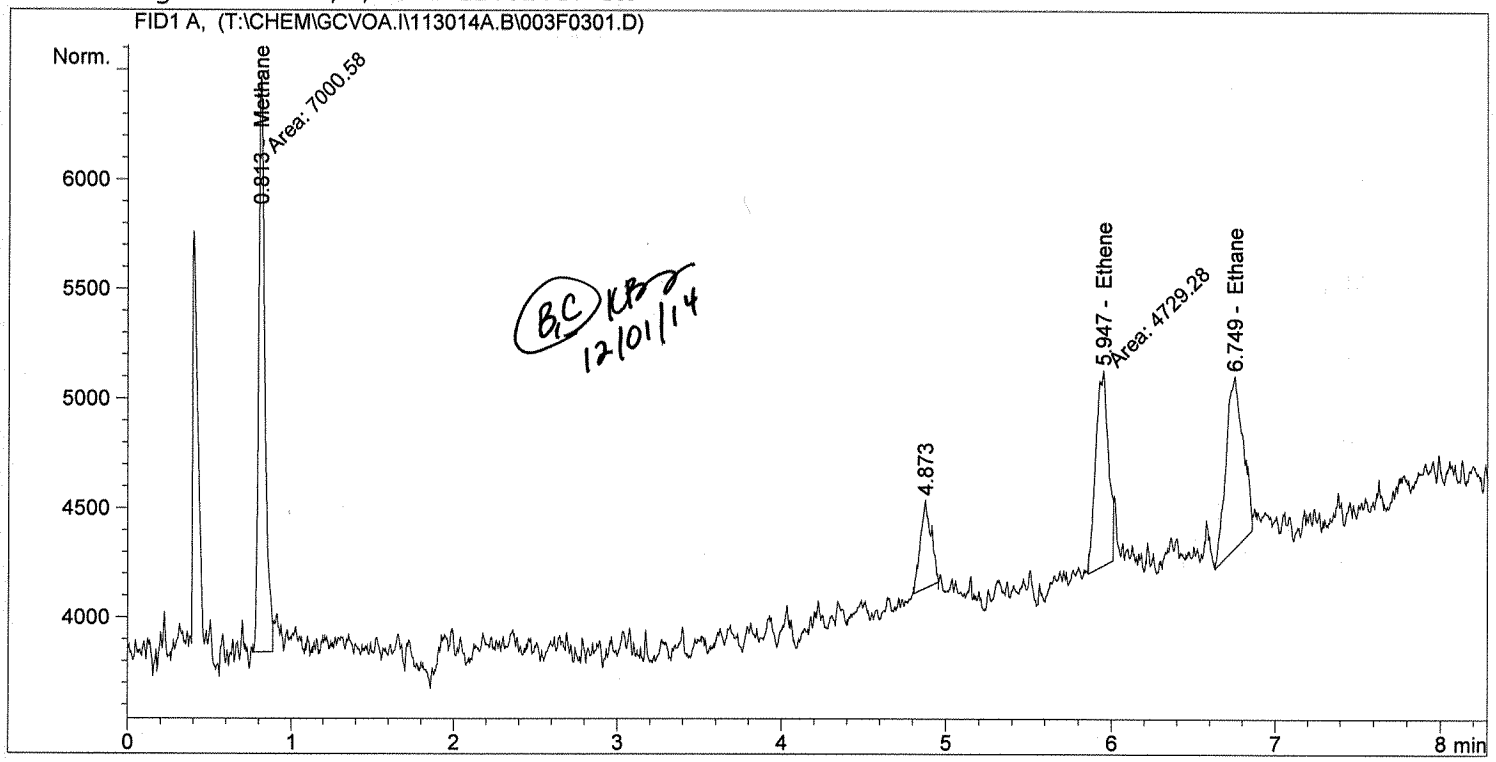
Warning : Calibration warnings (see calibration table listing)
```

Current Chromatogram(s)



Data File T:\CHEM\GCVOA.I\113014A.B\003F0301.D
Sample Name: SEQ-CAL2

Acq. Operator	:	Seq. Line	: 3
Acq. Instrument	: GCVOA	Location	: Vial 3
Injection Date	: 11/30/2014 11:09:15 PM	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\HPCHEM\1\METHODS\MEE-FAST.M		
Last changed	: 9/8/2011 1:56:36 PM by RDW		
Analysis Method	: T:\CHEM\GCVOA.I\112614.B\113014MEE.M		
Last changed	: 12/1/2014 12:02:47 PM		



BC KB 12/01/14

External Standard Report

Sorted By	:	Signal
Calib. Data Modified	:	12/1/2014 11:57:38 AM
Multiplier:	:	1.0000
Dilution:	:	1.0000

Do not use Multiplier & Dilution Factor with ISTDs

12/02/14

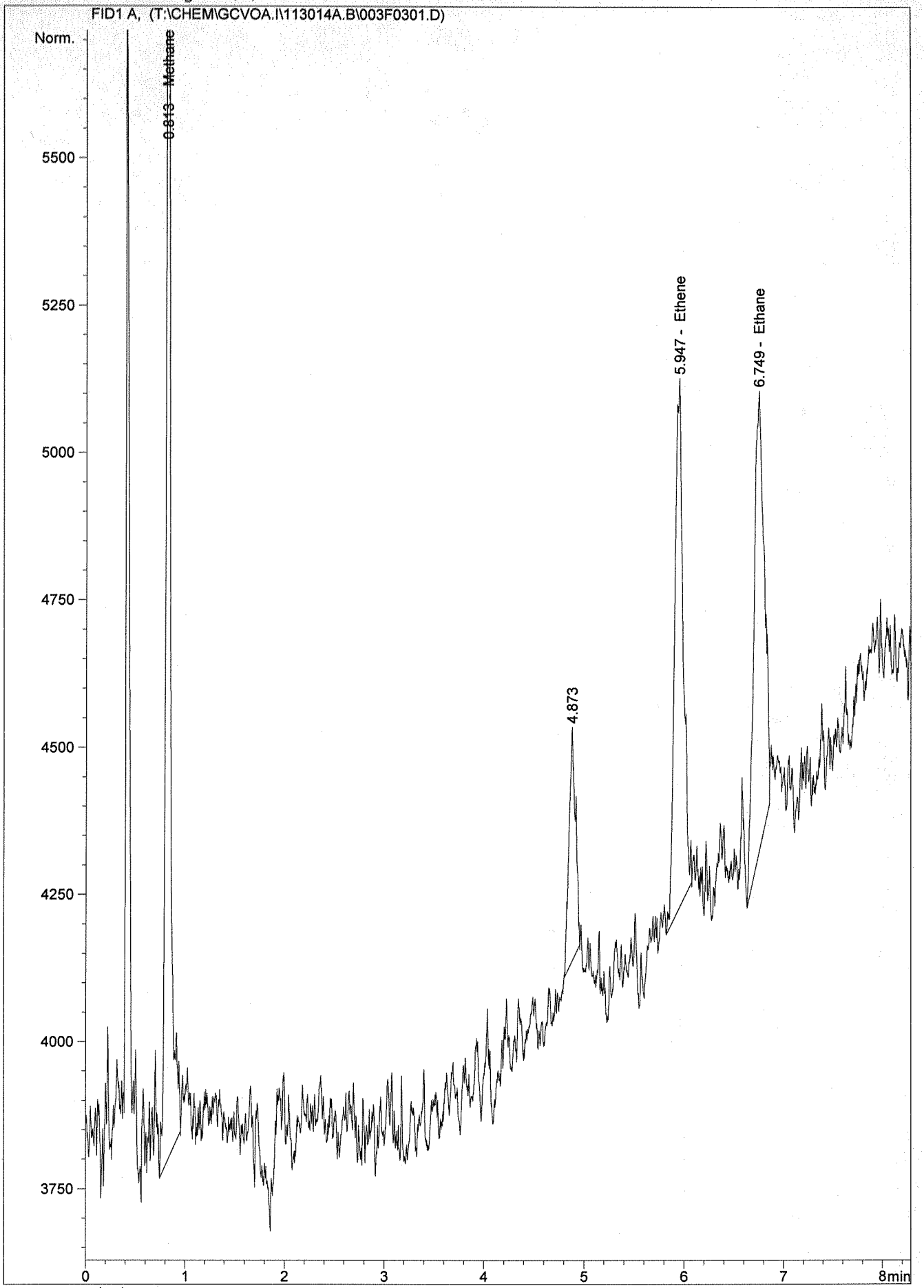
Signal 1: FID1 A,

RetTime [min]	Type	Area counts*s	Amt/Area	Amount [ug/L]	Grp	Name
0.813	MF +	7000.57910	2.24622e-7	1.57249e-3	-	Methane
5.947	MF +	4729.28027	1.91160e-6	9.04051e-3		Ethene
6.749	BV +	5670.37695	1.81649e-6	1.03002e-2		Ethane
Totals :				2.09132e-2		

2 Warnings or Errors :

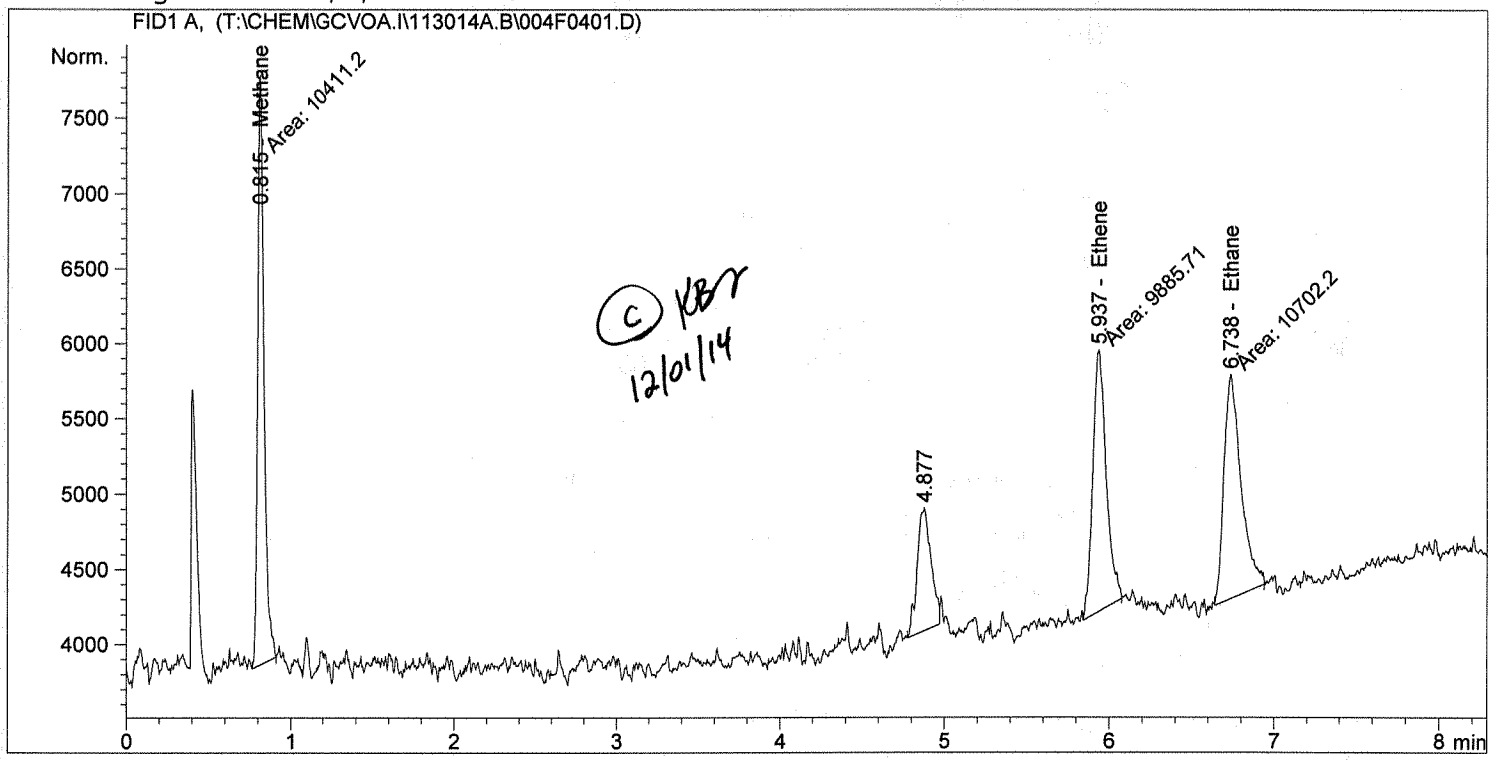
Warning : Calibration warnings (see calibration table listing)

Current Chromatogram(s)



Data File T:\CHEM\GCVOA.I\113014A.B\004F0401.D
Sample Name: SEQ-CAL3

```
==========================================================================
Acq. Operator    :                                  Seq. Line :   4
Acq. Instrument  : GCVOA                             Location : Vial 4
Injection Date   : 11/30/2014 11:22:49 PM                Inj :   1
                                                   Inj Volume : Manually
Acq. Method      : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed     : 9/8/2011 1:56:36 PM by RDW
Analysis Method  : T:\CHEM\GCVOA.I\112614.B\113014MEE.M
Last changed     : 12/1/2014 12:02:47 PM
```



(c) KBT 12/01/14

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==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      12/1/2014 11:57:38 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

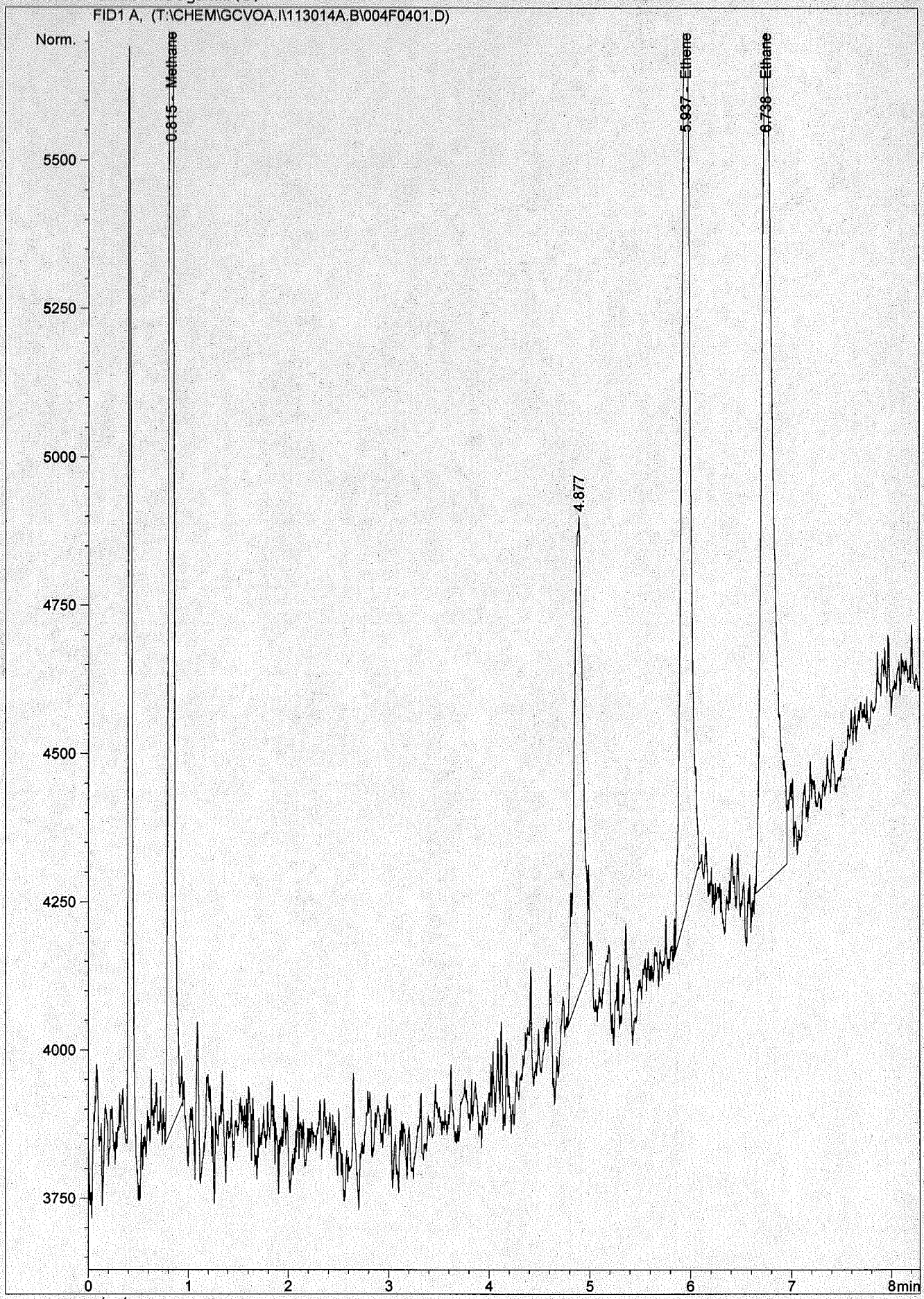
12/02/14

RetTime [min]	Type	Area counts*s	Amt/Area	Amount [ug/L]	Grp	Name
0.815	MM +	1.04112e4	9.29520e-7	9.67743e-3	-	Methane
5.937	MM +	9885.70996	1.91160e-6	1.88976e-2		Ethene
6.738	MM +	1.07022e4	1.81649e-6	1.94404e-2		Ethane
Totals :				4.80154e-2		

```
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
```

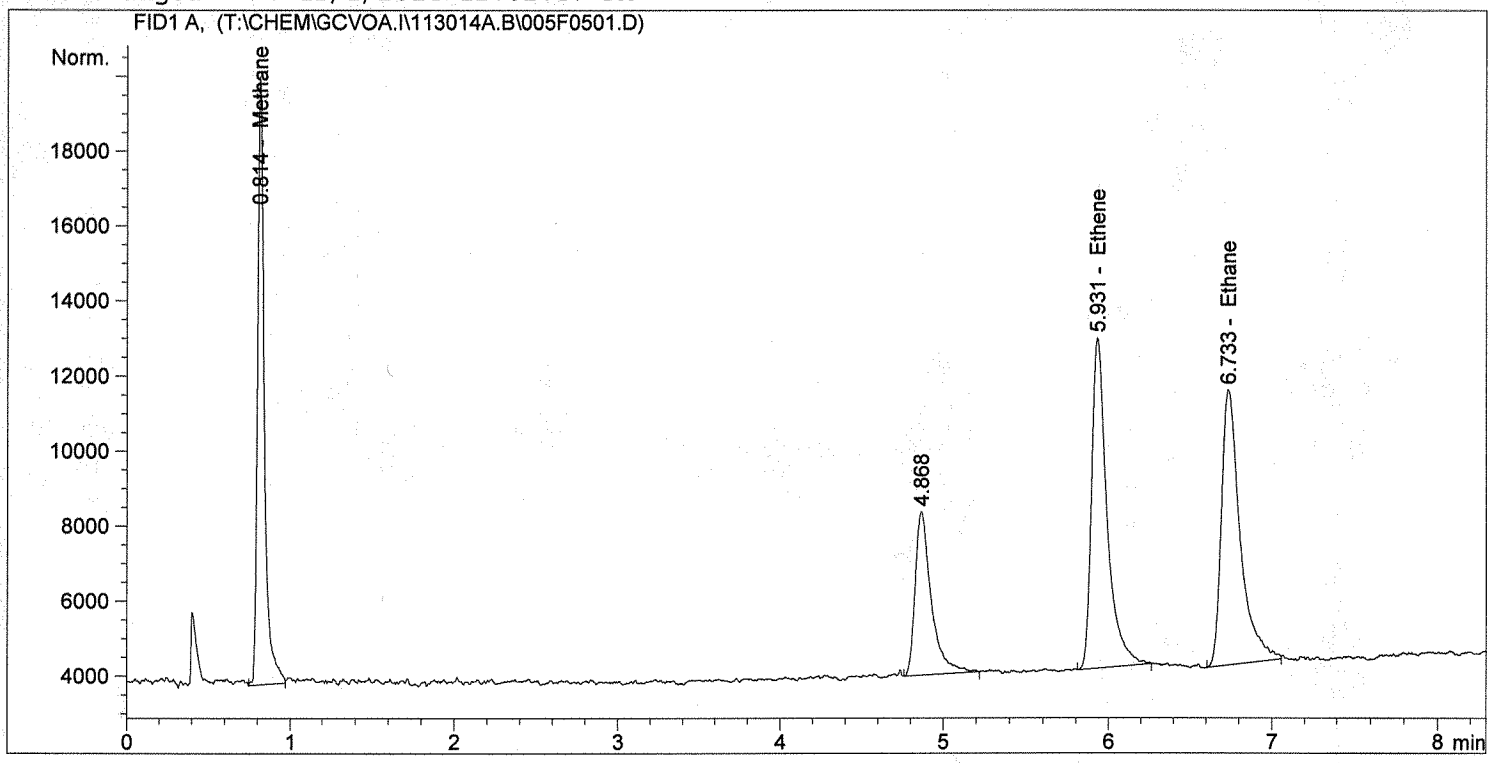
Current Chromatogram(s)



Data File T:\CHEM\GCVOA.I\113014A.B\005F0501.D
Sample Name: SEQ-CAL4

==========

Acq. Operator : Seq. Line : 5
Acq. Instrument : GCVOA Location : Vial 5
Injection Date : 11/30/2014 11:36:22 PM Inj : 1
Inj Volume : Manually
Acq. Method : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed : 9/8/2011 1:56:36 PM by RDW
Analysis Method : T:\CHEM\GCVOA.I\112614.B\113014MEE.M
Last changed : 12/1/2014 12:02:47 PM



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 12/1/2014 11:57:38 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

12/01/14

Signal 1: FID1 A,

RetTime [min]	Type	Area counts*s	Amt/Area	Amount [ug/L]	Grp	Name
0.814	BV +	4.62402e4	2.06309e-6	9.53976e-2		Methane
5.931	BB +	5.83965e4	1.91160e-6	1.11631e-1		Ethene
6.733	BV +	5.83987e4	1.81649e-6	1.06080e-1		Ethane
Totals :				3.13109e-1		

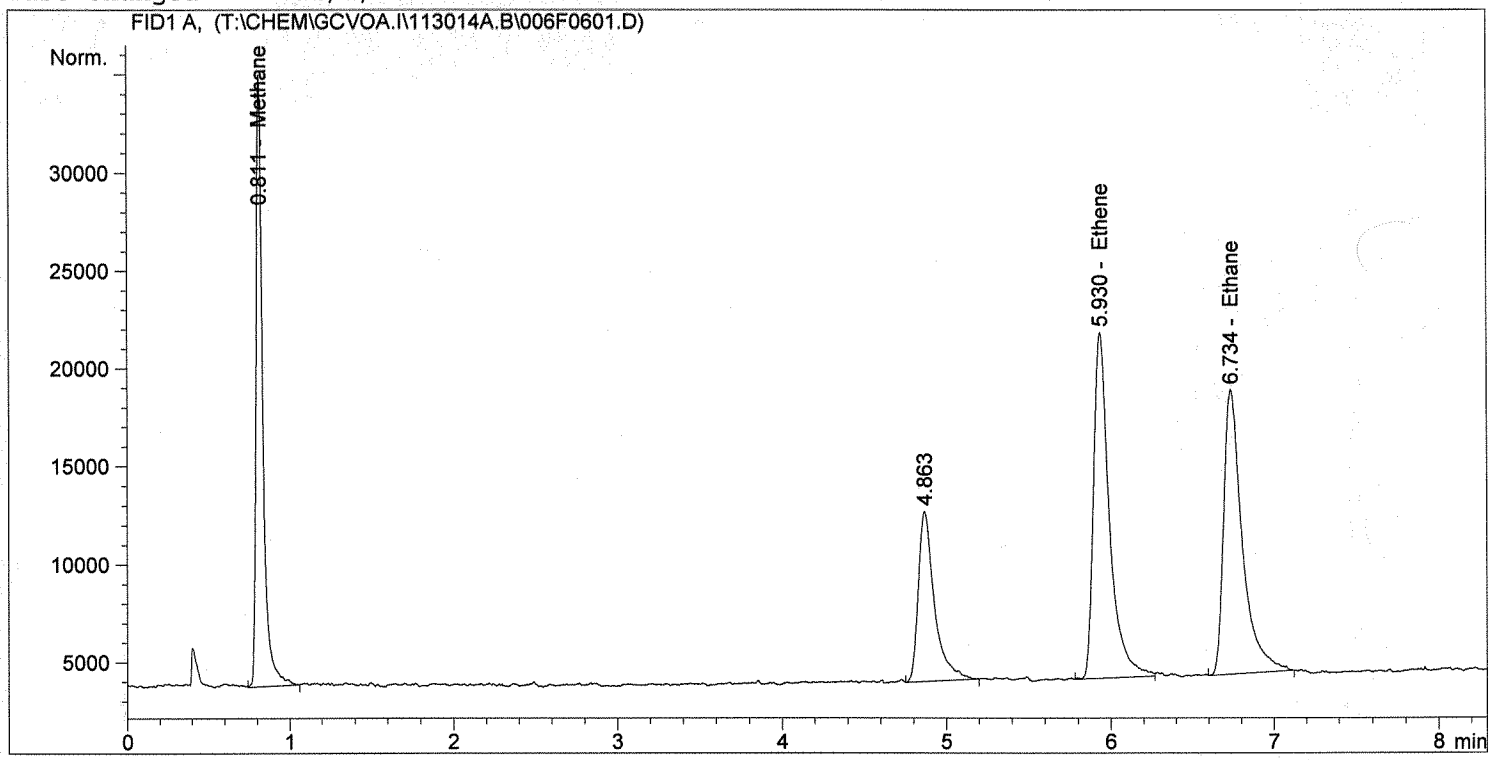
12/02/14

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

Data File T:\CHEM\GCVOA.I\113014A.B\006F0601.D
Sample Name: SEQ-CAL5

Acq. Operator	:	Seq. Line	: 6
Acq. Instrument	: GCVOA	Location	: Vial 6
Injection Date	: 11/30/2014 11:49:56 PM	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\HPCHEM\1\METHODS\MEE-FAST.M		
Last changed	: 9/8/2011 1:56:36 PM by RDW		
Analysis Method	: T:\CHEM\GCVOA.I\112614.B\113014MEE.M		
Last changed	: 12/1/2014 12:02:47 PM		



External Standard Report

Sorted By : Signal
Calib. Data Modified : 12/1/2014 11:57:38 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

KPP 12/01/14

Signal 1: FID1 A,

RetTime [min]	Type		Area counts*s	Amt/Area	Amount [ug/L]	Grp	Name
0.811	BB	+	8.94553e4	2.23834e-6	2.00231e-1		Methane
5.930	BV	+	1.19212e5	1.91160e-6	2.27886e-1		Ethene
6.734	BB	+	1.15706e5	1.81649e-6	2.10179e-1		Ethane
Totals :					6.38296e-1		

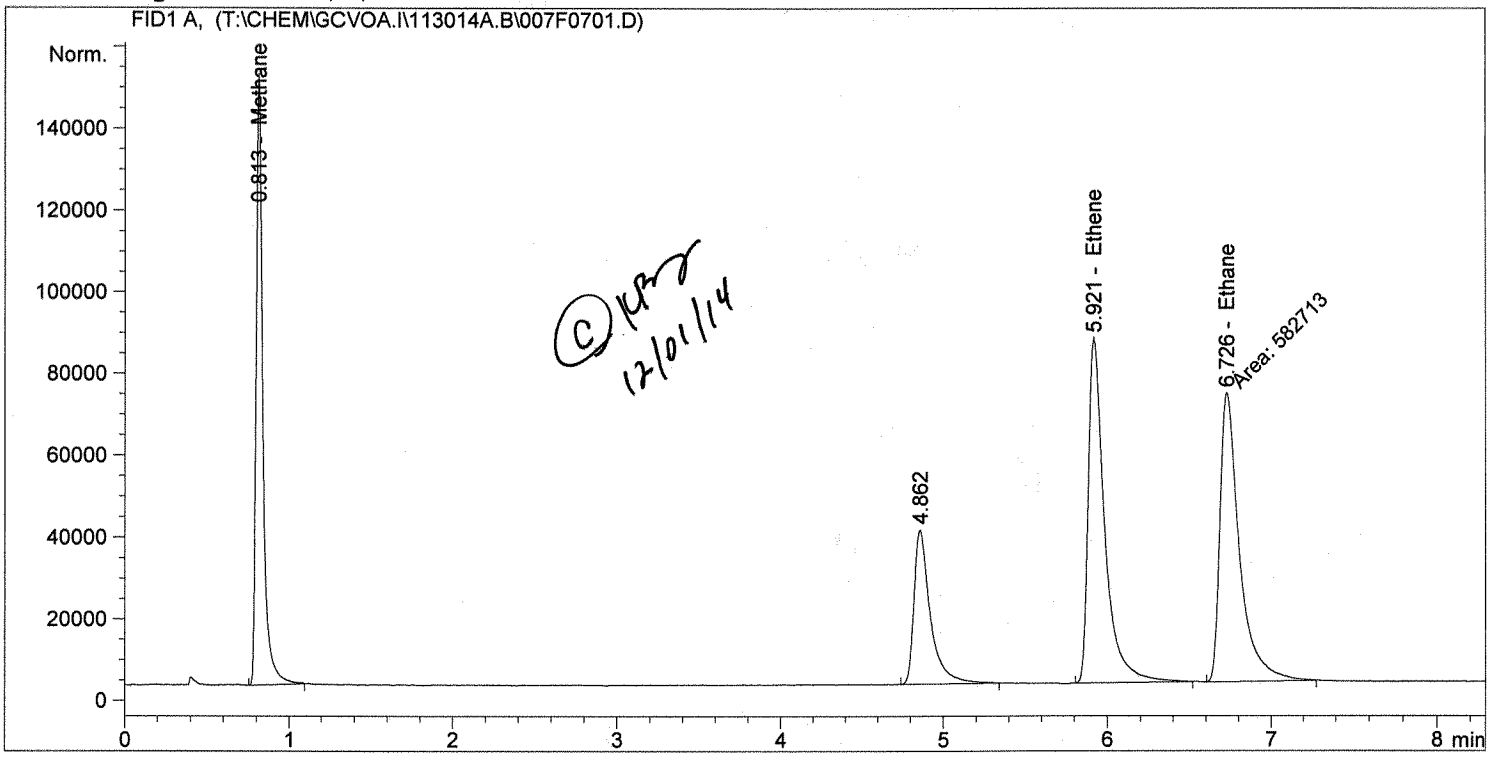
12/02/14

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

Data File T:\CHEM\GCVOA.I\113014A.B\007F0701.D
Sample Name: SEQ-CAL6

Acq. Operator	:	Seq. Line	: 7
Acq. Instrument	: GCVOA	Location	: Vial 7
Injection Date	: 12/1/2014 12:03:31 AM	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\HPCHEM\1\METHODS\MEE-FAST.M		
Last changed	: 9/8/2011 1:56:36 PM by RDW		
Analysis Method	: T:\CHEM\GCVOA.I\112614.B\113014MEE.M		
Last changed	: 12/1/2014 12:02:47 PM		



12/01/14

External Standard Report

Sorted By : Signal
Calib. Data Modified : 12/1/2014 11:57:38 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

12/02/14

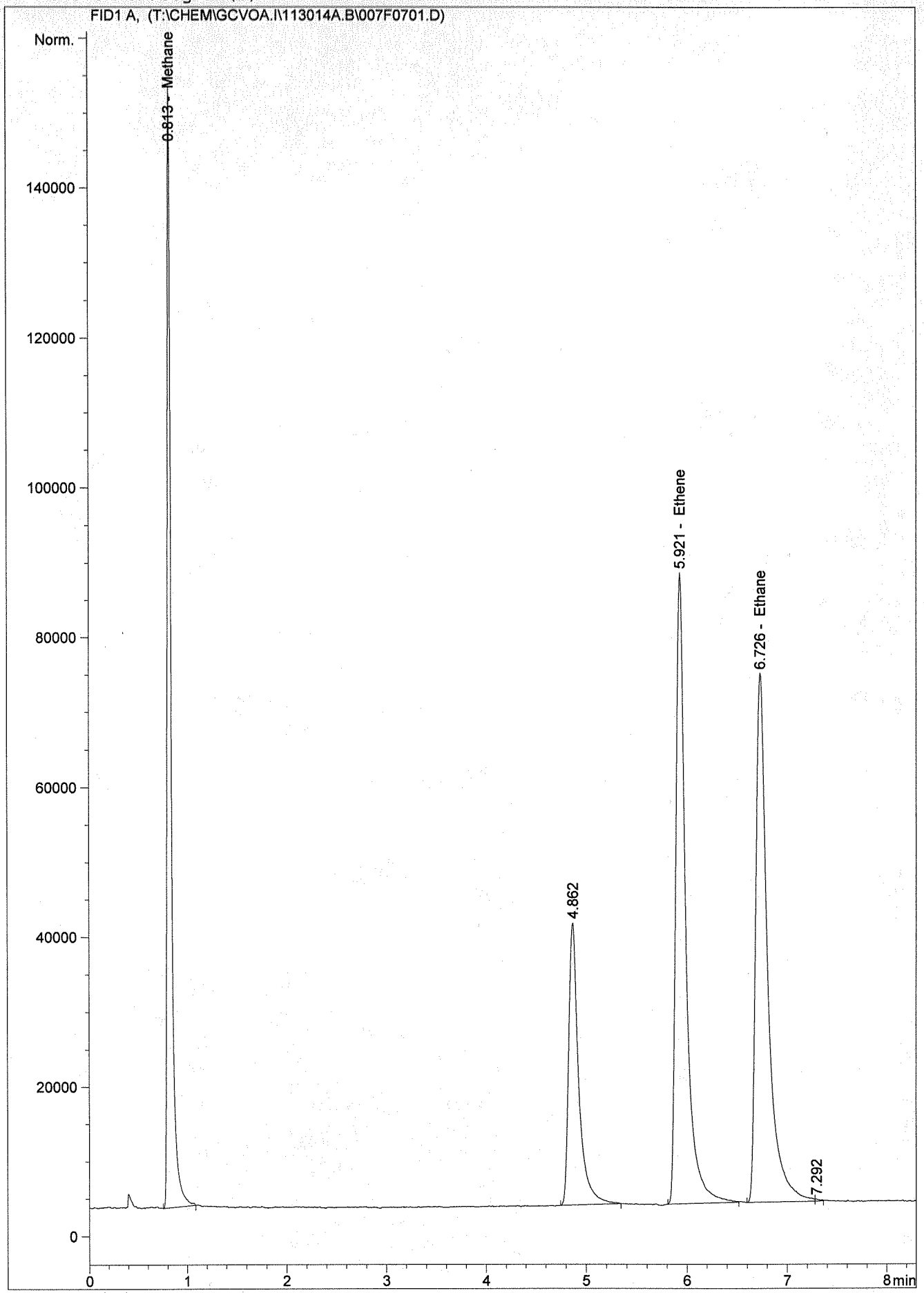
Signal 1: FID1 A,

RetTime [min]	Type	Area counts*s	Amt/Area	Amount [ug/L]	Grp	Name
0.813	BB +	4.22586e5	2.53322e-6	1.07050		Methane
5.921	BV +	5.86832e5	1.91160e-6	1.12179		Ethene
6.726	MM +	5.82713e5	1.81649e-6	1.05849		Ethane
Totals :				3.25079		

1 Warnings or Errors :

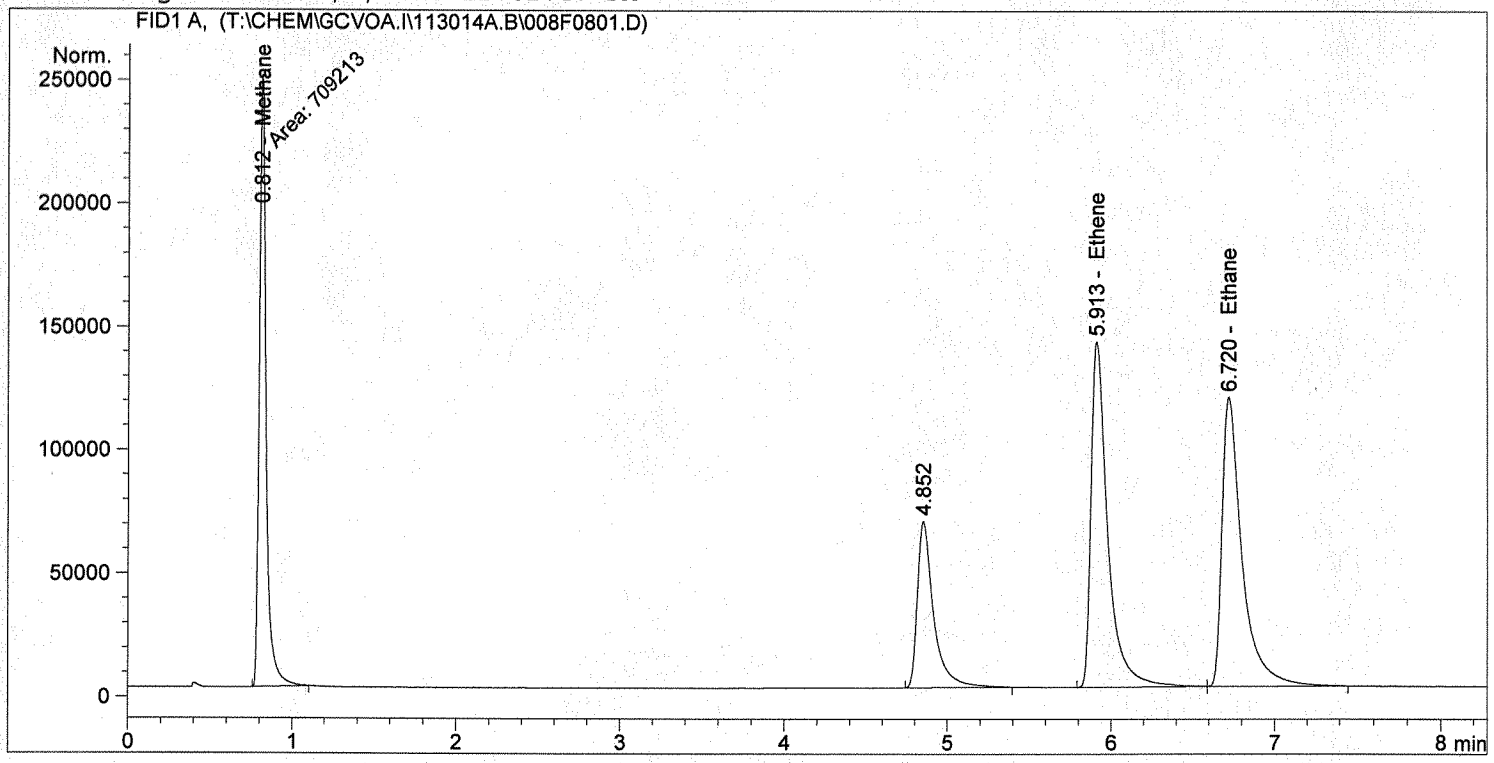
Warning : Calibration warnings (see calibration table listing)

Current Chromatogram(s)



Data File T:\CHEM\GCVOA.I\113014A.B\008F0801.D
Sample Name: SEQ-CAL7

```
==========================================================================
Acq. Operator   :                                  Seq. Line :   8
Acq. Instrument : GCVOA                             Location : Vial 8
Injection Date  : 12/1/2014 12:17:05 AM                 Inj :   1
                                                  Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 9/8/2011 1:56:36 PM by RDW
Analysis Method : T:\CHEM\GCVOA.I\112614.B\113014MEE.M
Last changed    : 12/1/2014 12:02:47 PM
```




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==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      12/1/2014 11:57:38 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs
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12/01/14

Signal 1: FID1 A,

RetTime [min]	Type		Area counts*s	Amt/Area	Amount [ug/L]	Grp	Name
0.812	MM	+	7.09213e5	2.73291e-6	1.93822		Methane
5.913	BB	+	9.99348e5	1.91160e-6	1.91036		Ethene
6.720	BB	+	9.91783e5	1.81649e-6	1.80156		Ethane
Totals :					5.65014		

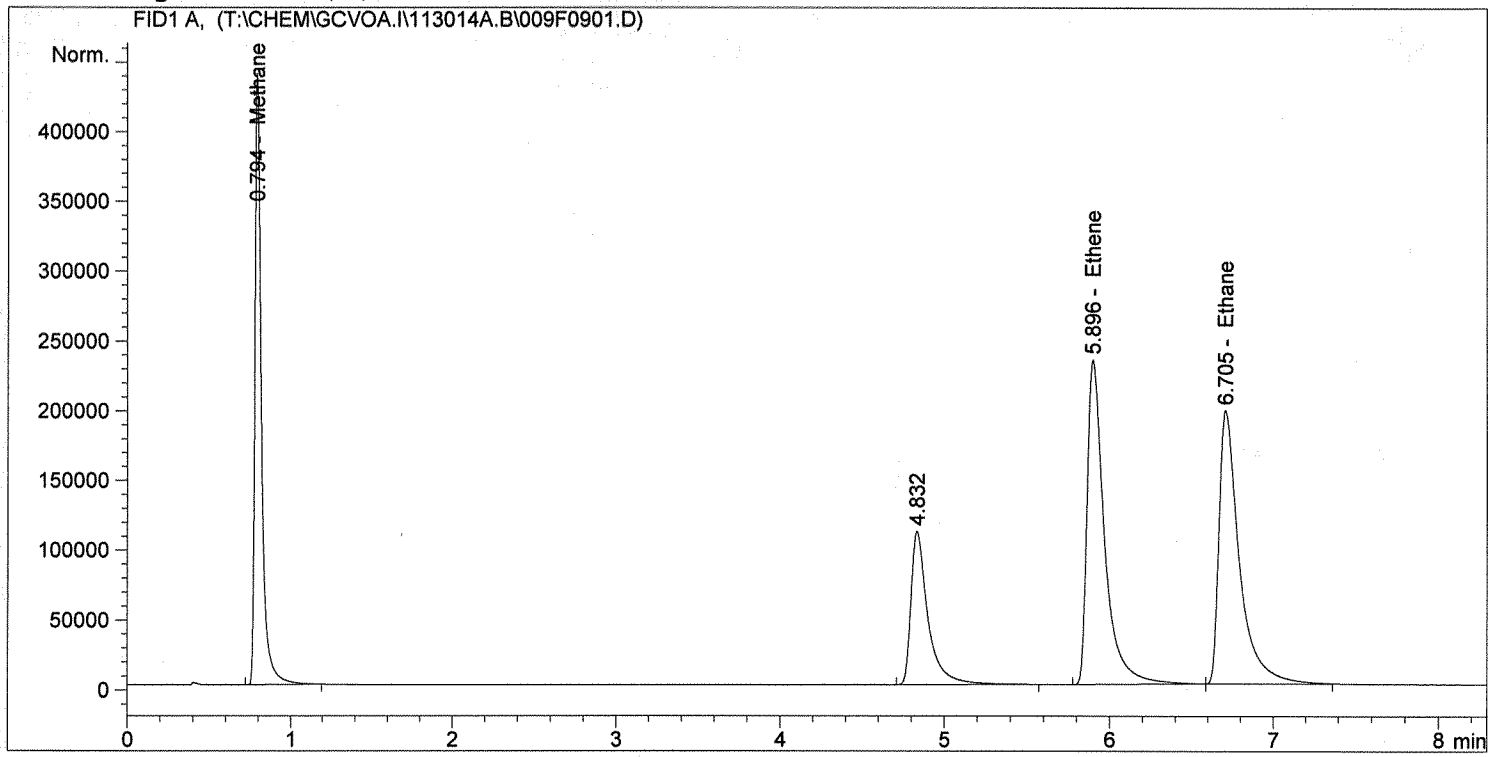
12/02/14

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

Data File T:\CHEM\GCVOA.I\113014A.B\009F0901.D
Sample Name: SEQ-CAL8

```
==========================================================================
Acq. Operator    :                                  Seq. Line :    9
Acq. Instrument  : GCVOA                             Location : Vial 9
Injection Date   : 12/1/2014 12:30:39 AM                 Inj :    1
                                                  Inj Volume : Manually
Acq. Method      : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed     : 9/8/2011 1:56:36 PM by RDW
Analysis Method  : T:\CHEM\GCVOA.I\112614.B\113014MEE.M
Last changed     : 12/1/2014 12:02:47 PM
```




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==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      12/1/2014 11:57:38 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area     Amount    Grp   Name
 [min]           counts*s                 [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.794 BBA +   1.21103e6  3.31721e-6    4.01722+   Methane
  5.896 BB  +   1.69828e6  1.91160e-6    3.24645    Ethene
  6.705 BV  +   1.69541e6  1.81649e-6    3.07969    Ethane

Totals :                                 10.34336


2 Warnings or Errors :

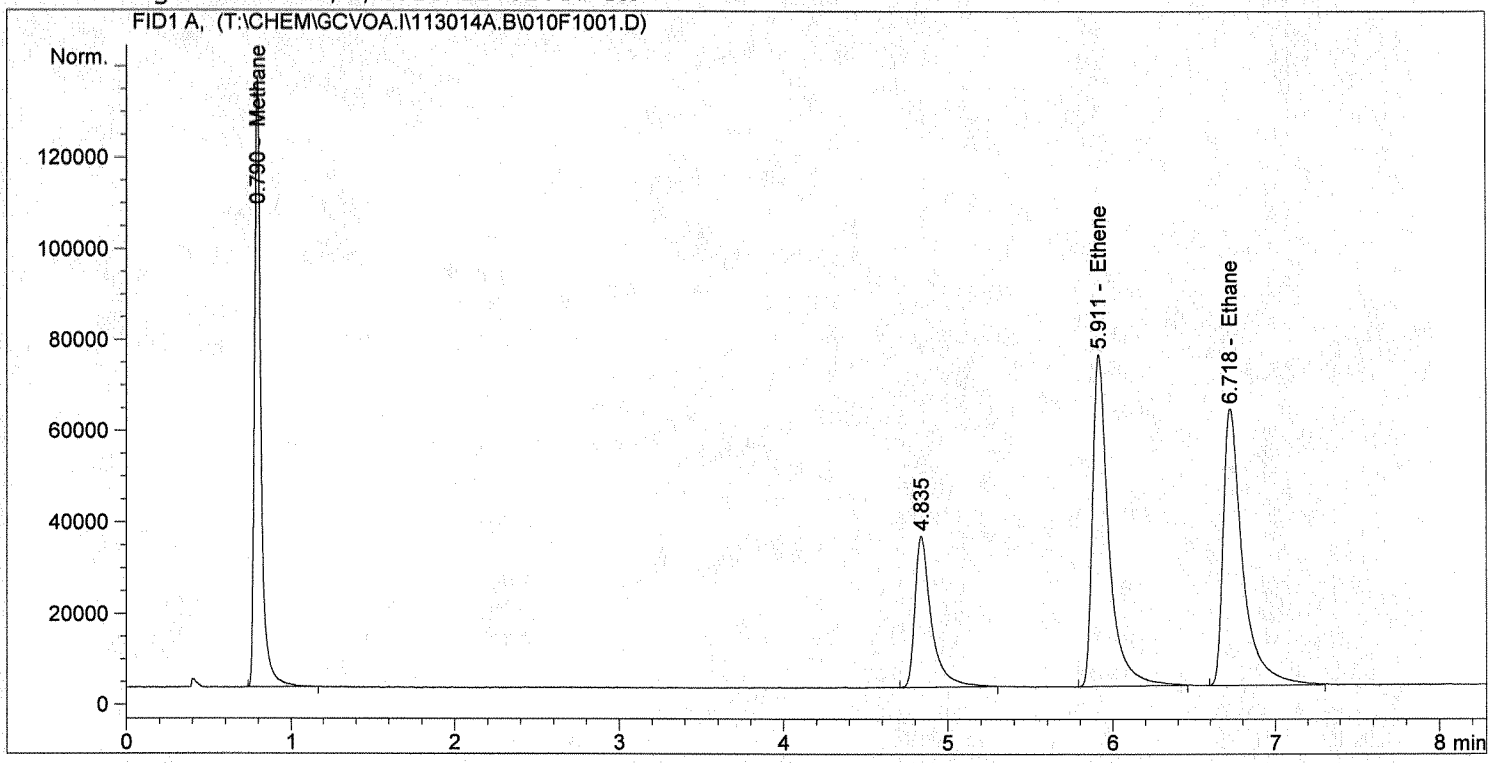
Warning : Calibration warnings (see calibration table listing)
```

12/01/14

12/02/14

Data File T:\CHEM\GCVOA.I\113014A.B\010F1001.D
Sample Name: SEQ-ICV1

Acq. Operator	:	Seq. Line	: 10
Acq. Instrument	: GCVOA	Location	: Vial 10
Injection Date	: 12/1/2014 12:44:14 AM	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\HPCHEM\1\METHODS\MEE-FAST.M		
Last changed	: 9/8/2011 1:56:36 PM by RDW		
Analysis Method	: T:\CHEM\GCVOA.I\112614.B\113014MEE.M		
Last changed	: 12/1/2014 12:02:47 PM		



External Standard Report

Sorted By : Signal
Calib. Data Modified : 12/1/2014 11:57:38 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

KPT 12/01/14

Signal 1: FID1 A,

RetTime [min]	Type	Area counts*s	Amt/Area	Amount [ug/L]	Grp	Name
0.790	BBA +	3.63070e5	2.49501e-6	9.05862e-1		Methane
5.911	BV +	5.07854e5	1.91160e-6	9.70816e-1		Ethene
6.718	BV +	5.06658e5	1.81649e-6	9.20337e-1		Ethane
Totals :				2.79701		

12/02/14

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

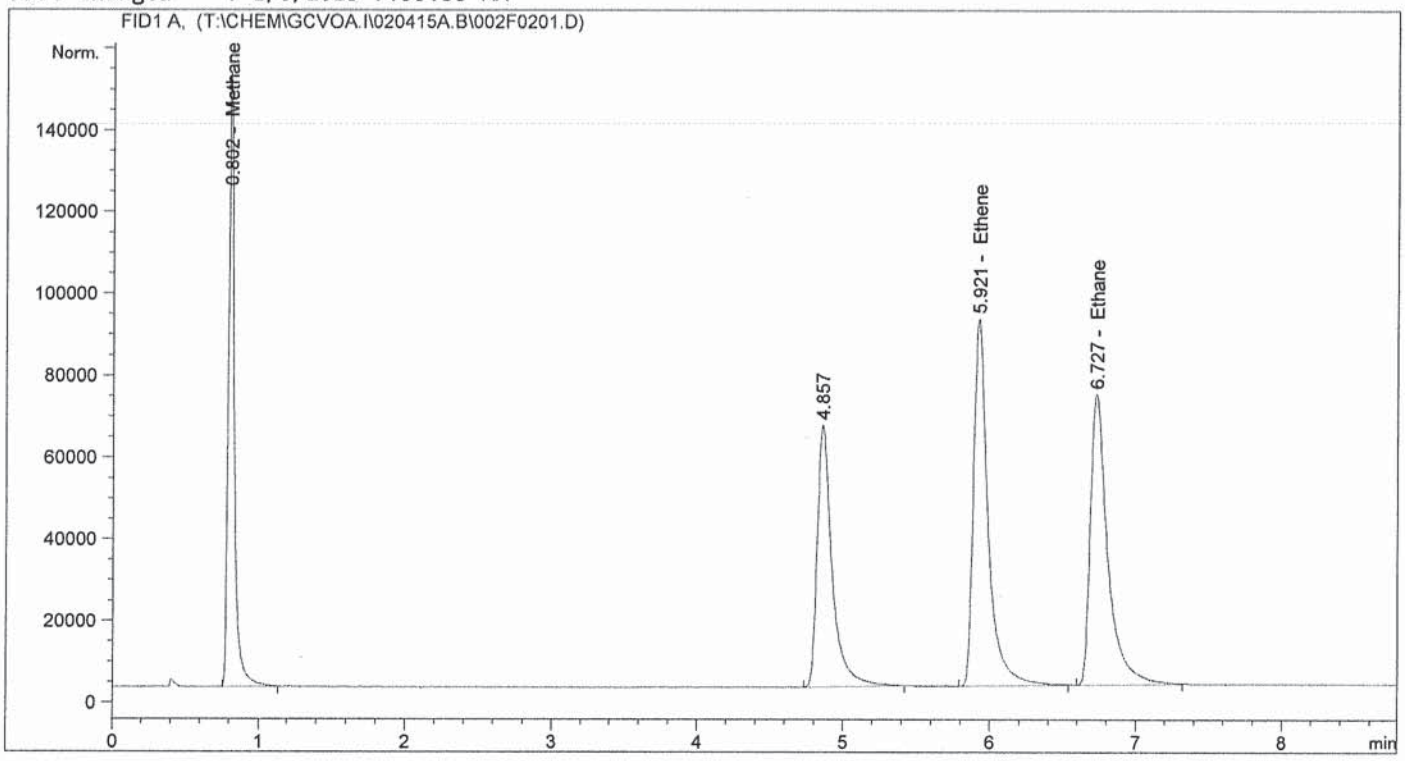
Partial Sequence: C:\HPCHEM\1\SEQUENCE\020415.S \GCVOA\FID\MEE

Pg 853
MS
2/6/15

Sel	Run	Location	Method	Datafile	SeqTable	Calib:RF:RT	Sample Name
No	1	Vial 1	MEE-FAST	001F0101	F:01:01		INST BLANK
No	2	Vial 2	MEE-FAST	002F0201	F:02:01		SEQ-CCV1 15B0103
No	3	Vial 3	MEE-FAST	003F0301	F:03:01		5B04002-BLK1 x1
No	4	Vial 4	MEE-FAST	004F0401	F:04:01		5B04002-BS1
No	5	Vial 5	MEE-FAST	005F0501	F:05:01		1501102-01
No	6	Vial 6	MEE-FAST	006F0601	F:06:01		1501102-02
No	7	Vial 7	MEE-FAST	007F0701	F:07:01		1501102-04
No	8	Vial 8	MEE-FAST	008F0801	F:08:01		1501102-05
No	9	Vial 9	MEE-FAST	009F0901	F:09:01		1501104-01
No	10	Vial 10	MEE-FAST	010F1001	F:10:01		1501104-02
No	11	Vial 11	MEE-FAST	011F1101	F:11:01		5B04002-MS1
No	12	Vial 12	MEE-FAST	012F1201	F:12:01		5B04002-MSD1
No	13	Vial 13	MEE-FAST	013F1301	F:13:01		1501104-03
No	14	Vial 14	MEE-FAST	014F1401	F:14:01		1501104-04
No	15	Vial 15	MEE-FAST	015F1501	F:15:01		1501104-05
No	16	Vial 16	MEE-FAST	016F1601	F:16:01		1501116-02
No	17	Vial 17	MEE-FAST	017F1701	F:17:01		SEQ-CCV2 15B0103
No	18	Vial 18	MEE-FAST	018F1801	F:18:01		1501116-03 x1
No	19	Vial 19	MEE-FAST	019F1901	F:19:01		1501116-04
No	20	Vial 20	MEE-FAST	020F2001	F:20:01		1501116-05
No	21	Vial 21	MEE-FAST	021F2101	F:21:01		5B04002-MS2
No	22	Vial 22	MEE-FAST	022F2201	F:22:01		5B04002-MSD2
No	23	Vial 23	MEE-FAST	023F2301	F:23:01		1501116-06
No	24	Vial 24	MEE-FAST	024F2401	F:24:01		1501116-07
No	25	Vial 25	MEE-FAST	025F2501	F:25:01		1501124-03
No	26	Vial 26	MEE-FAST	026F2601	F:26:01		1501124-04
No	27	Vial 27	MEE-FAST	027F2701	F:27:01		1501124-05
No	28	Vial 28	MEE-FAST	028F2801	F:28:01		1501134-03
No	29	Vial 29	MEE-FAST	029F2901	F:29:01		SEQ-CCV3 15B0103

Data File T:\CHEM\GCVOA.I\020415A.B\002F0201.D
Sample Name: SEQ-CCV1

```
======================================================================
Acq. Operator   :                                Seq. Line :   2
Acq. Instrument : GCVOA                           Location : Vial 2
Injection Date  : 2/4/2015 11:47:29 AM                Inj :   1
                                                 Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
```




```
======================================================================
                    External Standard Report
======================================================================
```

02/09/15

```
Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs
```

MS 2/6/15

```
Signal 1: FID1 A,

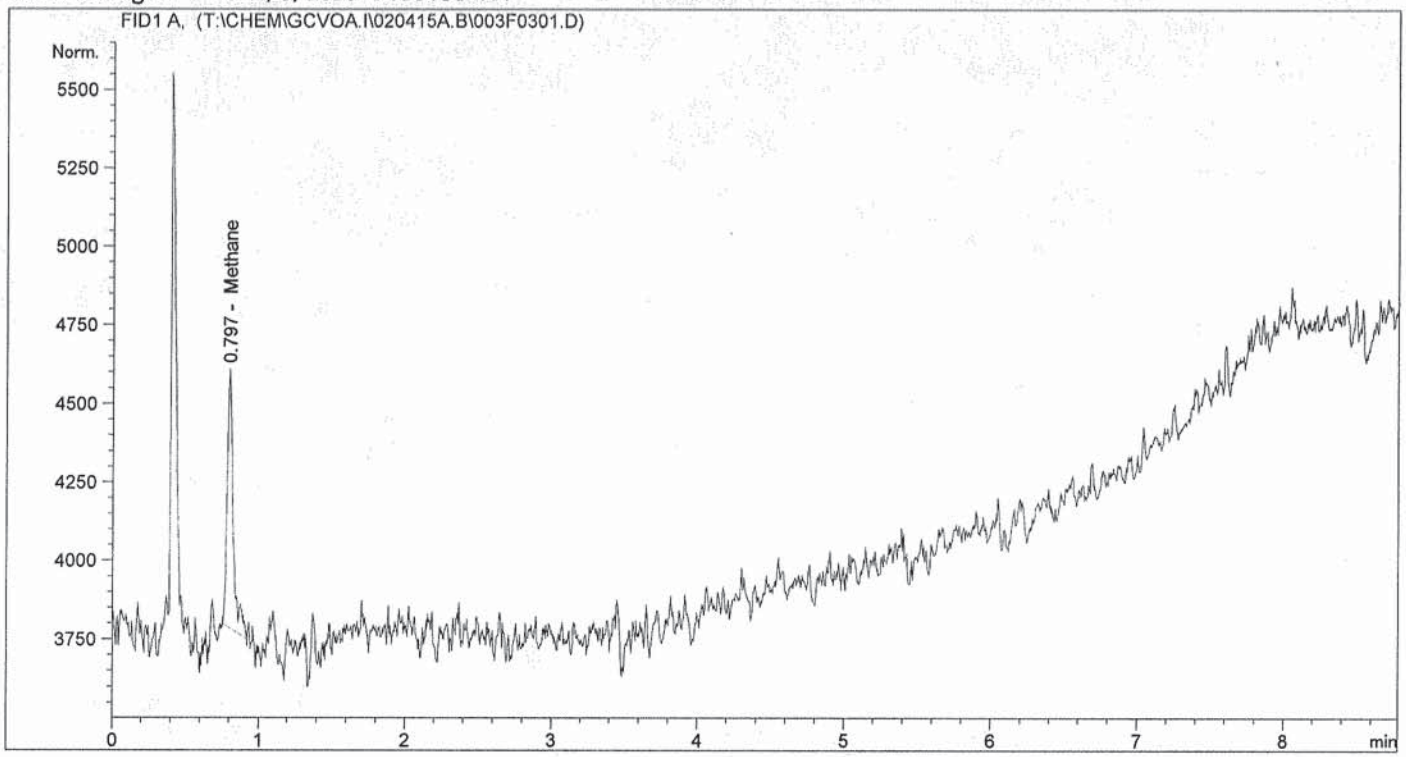
RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.802 BB   +  4.21863e5  2.53276e-6    1.06848    Methane
  5.921 BB   +  6.25981e5  1.91160e-6    1.19663    Ethene
  6.727 BV   +  5.93307e5  1.81649e-6    1.07773    Ethane

Totals :                                 3.34284


======================================================================
                        *** End of Report ***
```

Data File T:\CHEM\GCVOA.I\020415A.B\003F0301.D
Sample Name: 5B04002-BLK1

```
======================================================================
Acq. Operator    :                                Seq. Line :   3
Acq. Instrument : GCVOA                            Location : Vial 3
Injection Date  : 2/4/2015 12:01:06 PM                 Inj :   1
                                                 Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
```




```
======================================================================
                    External Standard Report
======================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                 [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.797 BB   + 2331.34180    0.00000    0.00000-   Methane
  5.921            -           -          -     -   Ethene
  6.727            -           -          -     -   Ethane

Totals :                                  0.00000

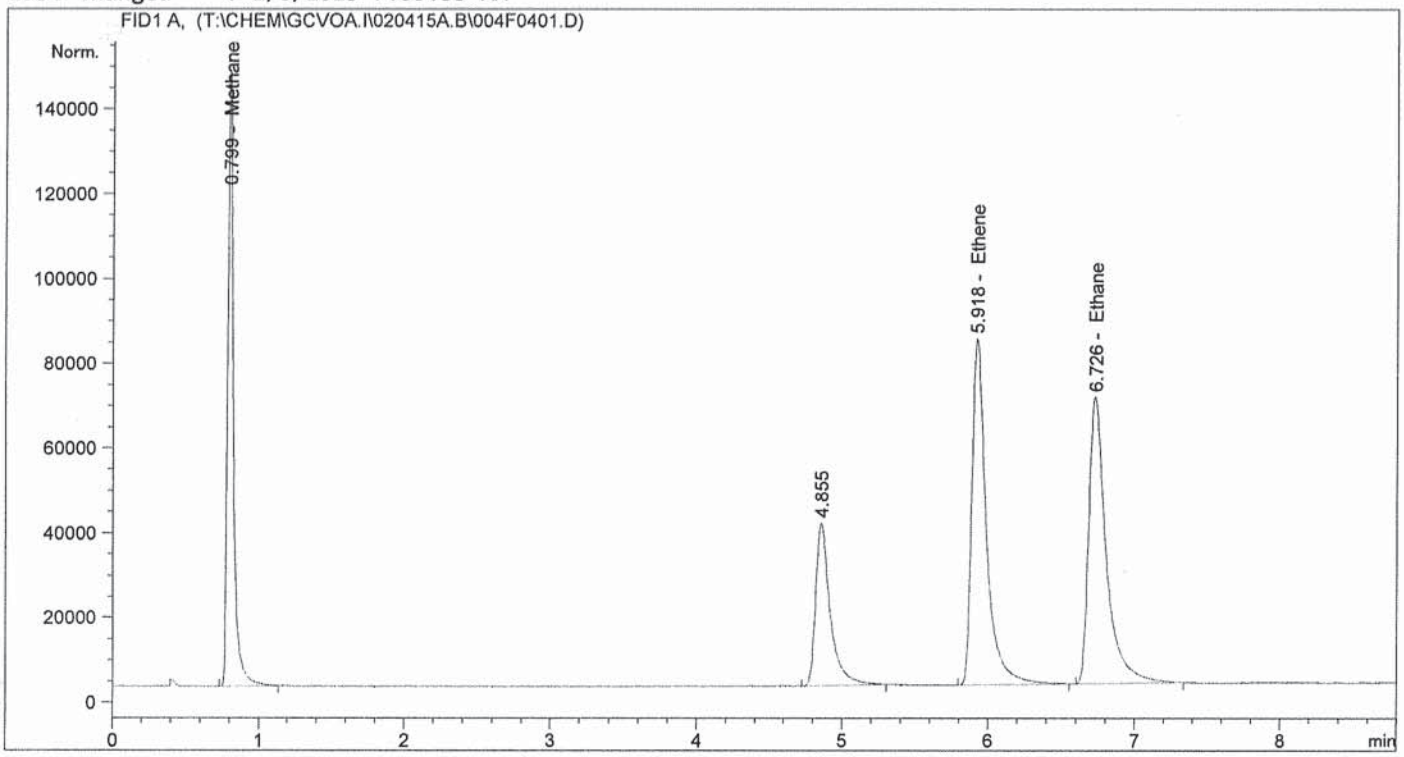

3 Warnings or Errors :
```

02/09/15

MS 2/6/15

Data File T:\CHEM\GCVOA.I\020415A.B\004F0401.D
Sample Name: 5B04002-BS1

```
======================================================================
Acq. Operator   :                              Seq. Line :   4
Acq. Instrument : GCVOA                         Location : Vial 4
Injection Date  : 2/4/2015 12:14:40 PM              Inj :   1
                                               Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
```




```
======================================================================
                    External Standard Report
======================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                 [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.799 BB   +  4.03003e5  2.52065e-6    1.01583    Methane
  5.918 BB   +  5.69819e5  1.91160e-6    1.08927    Ethene
  6.726 BB   +  5.61935e5  1.81649e-6    1.02075    Ethane

Totals :                                 3.12585

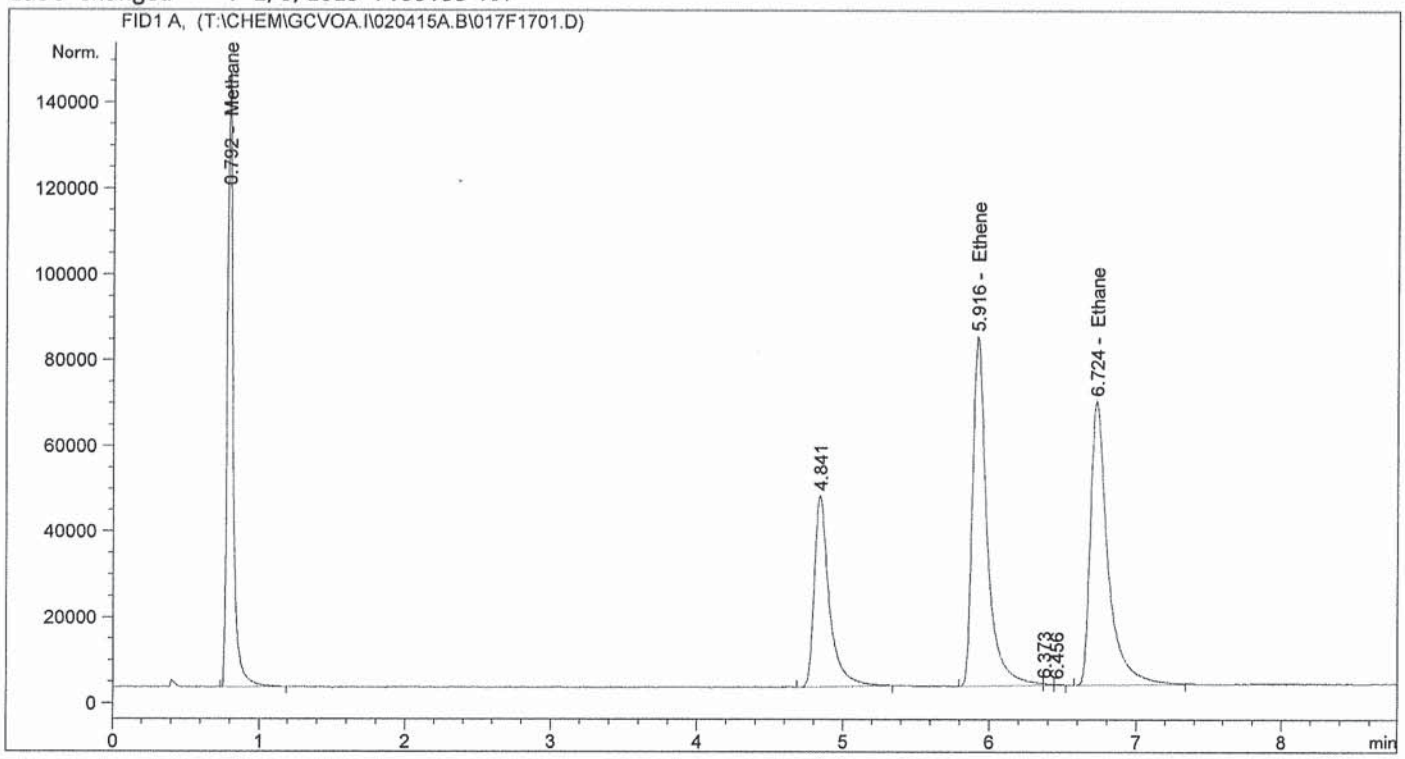
======================================================================
                        *** End of Report ***
```

02/09/15

NS 2/6/15

Data File T:\CHEM\GCVOA.I\020415A.B\017F1701.D
Sample Name: SEQ-CCV2

```
==========================================================================
Acq. Operator   :                                Seq. Line :  17
Acq. Instrument : GCVOA                           Location : Vial 17
Injection Date  : 2/4/2015 3:11:15 PM                 Inj :   1
                                                 Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.792 BBA +  3.94075e5  2.51492e-6 9.91067e-1    Methane
  5.916 BV  +  5.67743e5  1.91160e-6    1.08530    Ethene
  6.724 BV  +  5.55950e5  1.81649e-6    1.00988    Ethane

Totals :                                3.08624

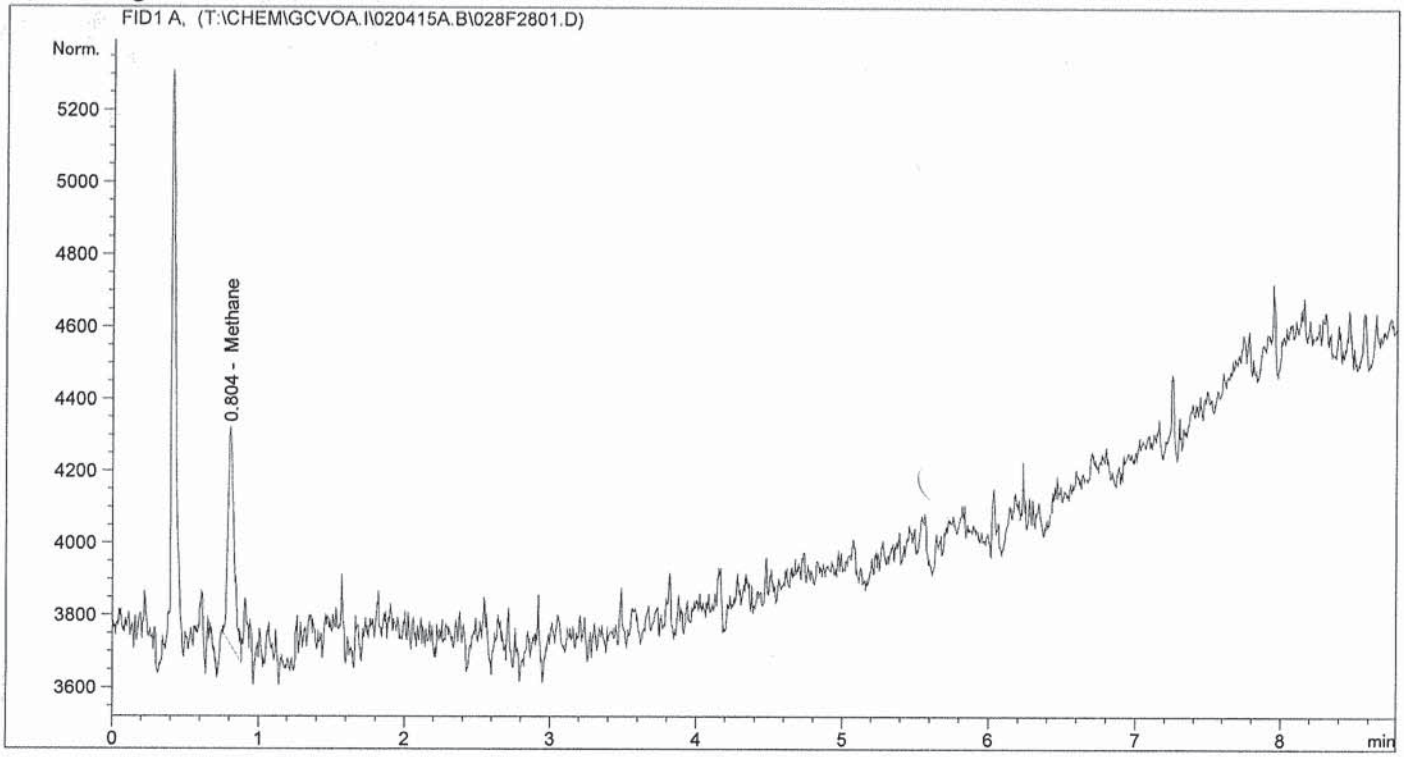

==========================================================================
                         *** End of Report ***
```

MS 2/6/15

02/09/15

Data File T:\CHEM\GCVOA.I\020415A.B\028F2801.D
Sample Name: 1501134-03

```
==========================================================================
Acq. Operator   :                                Seq. Line :  28
Acq. Instrument : GCVOA                           Location : Vial 28
Injection Date  : 2/4/2015 5:40:39 PM                 Inj :   1
                                                 Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                 [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.804 BV   +  1770.19788    0.00000    0.00000-   Methane
  5.921            -           -          -     -   Ethene
  6.727            -           -          -     -   Ethane

Totals :                                  0.00000

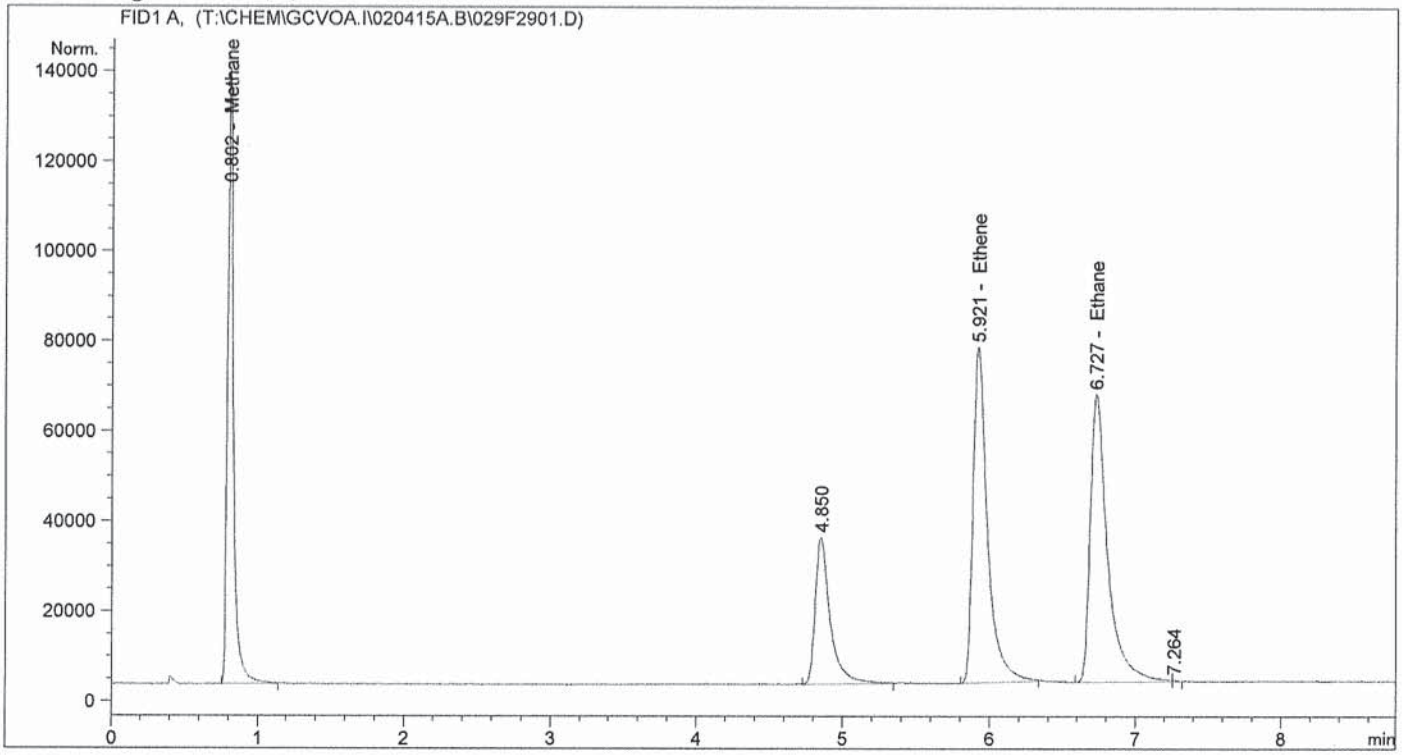

3 Warnings or Errors :
```

02/09/15

MS 2/6/15

Data File T:\CHEM\GCVOA.I\020415A.B\029F2901.D
Sample Name: SEQ-CCV3

```
==========================================================================
Acq. Operator   :                                  Seq. Line :  29
Acq. Instrument : GCVOA                             Location : Vial 29
Injection Date  : 2/4/2015 5:54:12 PM                    Inj :   1
                                                  Inj Volume : Manually
Acq. Method     : C:\HPCHEM\1\METHODS\MEE-FAST.M
Last changed    : 2/4/2015 11:03:36 AM
Analysis Method : T:\CHEM\GCVOA.I\020415A.B\113014MEE.M
Last changed    : 2/6/2015 7:55:33 AM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/6/2015 7:55:01 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/L]
-------|------|----------|----------|----------|--|------------------
  0.802 BB   +  3.80852e5  2.50644e-6 9.54581e-1    Methane
  5.921 BV   +  5.13049e5  1.91160e-6 9.80747e-1    Ethene
  6.727 BV   +  5.32920e5  1.81649e-6 9.68043e-1    Ethane

Totals :                                2.90337


==========================================================================
                        *** End of Report ***
```

02/09/15

MS 2/6/15

PREPARATION BENCH SHEET

5B04002

Empirical Laboratories, LLC **Printed: 2/9/2015 2:41:57PM**

Instrument:

Matrix: Water **Prepared using: GCLC - RSK175** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID		ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
1501102-01	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501102-02	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501102-04	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501102-05	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501104-01	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501104-02	J	VGC_RSK175_MEE	02/04/2015	15	15							MS/MSD;;
1501104-03	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501104-04	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501104-05	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501116-02	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501116-03	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501116-04	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501116-05	D	VGC_RSK175_MEE	02/04/2015	15	15							MS/MSD;MS/MSD;MS/MSD
1501116-06	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501116-07	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501124-03	D	VGC_RSK175_MEE	02/04/2015	15	15							;;
1501124-04	D	VGC_RSK175_MEE	02/04/2015	15	15							;;

PREPARATION BENCH SHEET

5B04002

Empirical Laboratories, LLC **Printed: 2/9/2015 2:41:57PM**

Instrument:

Matrix: Water **Prepared using: GCLC - RSK175** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
1501124-05	D	VGC_RSK175_MEE	02/04/2015	15	15						;;
1501134-03	E	VGC_RSK175_MEE	02/04/2015	15	15						;;
5B04002-BLK1		QC	02/04/2015	15	15					NA	
5B04002-BS1		QC	02/04/2015	15	15	13K0238		500		NA	
5B04002-MS1		QC	02/04/2015	15	15	13K0238	1501104-02	500		NA	
5B04002-MS2		QC	02/04/2015	15	15	13K0238	1501116-05	500		NA	
5B04002-MSD1		QC	02/04/2015	15	15	13K0238	1501104-02	500		NA	
5B04002-MSD2		QC	02/04/2015	15	15	13K0238	1501116-05	500		NA	

Reagents Used:

Standard	Description

Data for SW6010C / SW7470A Forms

Sample Extraction Data

Prep Method: MET_3005A-SW6010C

Lab Number [Field ID]	Batch	Nominal Initial/Final	Initial [mL]	Final [mL]	Dilution	% Solids	Notes	Date
1501134-04 [ADW01]	5B02016	50.00/50.00	50.0	50.0	1.00			02/02/15

Sample Extraction Data

Prep Method: pMercury-W SW 7470A-SW7470A

Lab Number [Field ID]	Batch	Nominal Initial/Final	Initial [mL]	Final [mL]	Dilution	% Solids	Notes	Date
1501134-04 [ADW01]	5B04018	30.00/30.00	30.0	30.0	1.00			02/05/15

ANALYSIS DATA SHEET

ADW01

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
Sampled: 01/29/15 12:45

SDG: 1501134
Project: Radford AAP
Laboratory ID: 1501134-04
Received: 01/30/15 08:35

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0800	0.160	0.200	1	U	SW7470A	5B04018	02/05/15 13:49
7429-90-5	Aluminum	**2170**	**50.0**	100	200	1		SW6010C	5B02016	02/03/15 15:26
7440-36-0	Antimony		5.00	8.00	15.0	1	U	SW6010C	5B02016	02/03/15 15:26
7440-38-2	Arsenic		3.00	6.00	10.0	1	U	SW6010C	5B02016	02/03/15 15:26
7440-39-3	Barium	**176**	**5.00**	10.0	40.0	1		SW6010C	5B02016	02/03/15 15:26
7440-41-7	Beryllium		1.00	2.00	5.00	1	U	SW6010C	5B02016	02/03/15 15:26
7440-43-9	Cadmium		1.00	2.00	5.00	1	U	SW6010C	5B02016	02/03/15 15:26
7440-70-2	Calcium	**76300**	**1000**	2000	5000	1		SW6010C	5B02016	02/03/15 15:26
7440-47-3	Chromium	**5.71**	**2.00**	4.00	10.0	1	J	SW6010C	5B02016	02/03/15 15:26
7440-48-4	Cobalt		5.00	10.0	12.5	1	U	SW6010C	5B02016	02/03/15 15:26
7440-50-8	Copper	**8.56**	**4.00**	8.00	10.0	1	J	SW6010C	5B02016	02/03/15 15:26
7439-89-6	Iron	**4530**	**30.0**	60.0	100	1		SW6010C	5B02016	02/03/15 15:26
7439-92-1	Lead		1.50	3.00	5.00	1	U	SW6010C	5B02016	02/03/15 15:26
7439-95-4	Magnesium	**43400**	**1000**	3000	5000	1		SW6010C	5B02016	02/03/15 15:26
7439-96-5	Manganese	**206**	**3.00**	6.00	15.0	1		SW6010C	5B02016	02/03/15 15:26
7440-02-0	Nickel	**4.45**	**3.00**	6.00	10.0	1	J	SW6010C	5B02016	02/03/15 15:26
7440-09-7	Potassium	**4250**	**1000**	3000	5000	1	J	SW6010C	5B02016	02/03/15 15:26
7782-49-2	Selenium		3.00	5.00	10.0	1	U	SW6010C	5B02016	02/03/15 15:26
7440-22-4	Silver		1.00	2.00	3.00	1	U	SW6010C	5B02016	02/03/15 15:26
7440-23-5	Sodium	**61700**	**1000**	3000	5000	1		SW6010C	5B02016	02/03/15 15:26
7440-28-0	Thallium		3.00	4.00	8.00	1	U	SW6010C	5B02016	02/03/15 15:26
7440-62-2	Vanadium		5.00	10.0	12.5	1	U	SW6010C	5B02016	02/03/15 15:26
7440-66-6	Zinc	**33.9**	**5.00**	10.0	20.0	1		SW6010C	5B02016	02/03/15 15:26

ANALYSIS DATA SHEET

Blank

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Matrix: Water
Laboratory ID: 5B02016-BLK1
% Solids:

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7429-90-5	Aluminum	ND	50.0	100	200	1	U	SW6010C	5B02016	02/03/15 15:17
7440-36-0	Antimony	ND	5.00	8.00	15.0	1	U	SW6010C	5B02016	02/03/15 15:17
7440-38-2	Arsenic	ND	3.00	6.00	10.0	1	U	SW6010C	5B02016	02/03/15 15:17
7440-39-3	Barium	ND	5.00	10.0	40.0	1	U	SW6010C	5B02016	02/03/15 15:17
7440-41-7	Beryllium	ND	1.00	2.00	5.00	1	U	SW6010C	5B02016	02/03/15 15:17
7440-43-9	Cadmium	ND	1.00	2.00	5.00	1	U	SW6010C	5B02016	02/03/15 15:17
7440-70-2	Calcium	ND	1000	2000	5000	1	U	SW6010C	5B02016	02/03/15 15:17
7440-47-3	Chromium	ND	2.00	4.00	10.0	1	U	SW6010C	5B02016	02/03/15 15:17
7440-48-4	Cobalt	ND	5.00	10.0	12.5	1	U	SW6010C	5B02016	02/03/15 15:17
7440-50-8	Copper	ND	4.00	8.00	10.0	1	U	SW6010C	5B02016	02/03/15 15:17
7439-89-6	Iron	ND	30.0	60.0	100	1	U	SW6010C	5B02016	02/03/15 15:17
7439-92-1	Lead	ND	1.50	3.00	5.00	1	U	SW6010C	5B02016	02/03/15 15:17
7439-95-4	Magnesium	ND	1000	3000	5000	1	U	SW6010C	5B02016	02/03/15 15:17
7439-96-5	Manganese	ND	3.00	6.00	15.0	1	U	SW6010C	5B02016	02/03/15 15:17
7440-02-0	Nickel	ND	3.00	6.00	10.0	1	U	SW6010C	5B02016	02/03/15 15:17
7440-09-7	Potassium	ND	1000	3000	5000	1	U	SW6010C	5B02016	02/03/15 15:17
7782-49-2	Selenium	ND	3.00	5.00	10.0	1	U	SW6010C	5B02016	02/03/15 15:17
7440-22-4	Silver	ND	1.00	2.00	3.00	1	U	SW6010C	5B02016	02/03/15 15:17
7440-23-5	Sodium	ND	1000	3000	5000	1	U	SW6010C	5B02016	02/03/15 15:17
7440-28-0	Thallium	ND	3.00	4.00	8.00	1	U	SW6010C	5B02016	02/03/15 15:17
7440-62-2	Vanadium	ND	5.00	10.0	12.5	1	U	SW6010C	5B02016	02/03/15 15:17
7440-66-6	Zinc	ND	5.00	10.0	20.0	1	U	SW6010C	5B02016	02/03/15 15:17

ANALYSIS DATA SHEET

LCS

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Matrix: Water
Laboratory ID: 5B02016-BS1
% Solids:

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7429-90-5	Aluminum	**1896**	**50.0**	100	200	1		SW6010C	5B02016	02/03/15 15:21
7440-36-0	Antimony	**234.1**	**5.00**	8.00	15.0	1		SW6010C	5B02016	02/03/15 15:21
7440-38-2	Arsenic	**234.8**	**3.00**	6.00	10.0	1		SW6010C	5B02016	02/03/15 15:21
7440-39-3	Barium	**1855**	**5.00**	10.0	40.0	1		SW6010C	5B02016	02/03/15 15:21
7440-41-7	Beryllium	**49.04**	**1.00**	2.00	5.00	1		SW6010C	5B02016	02/03/15 15:21
7440-43-9	Cadmium	**126.7**	**1.00**	2.00	5.00	1		SW6010C	5B02016	02/03/15 15:21
7440-70-2	Calcium	**4814**	**1000**	2000	5000	1	J	SW6010C	5B02016	02/03/15 15:21
7440-47-3	Chromium	**195.9**	**2.00**	4.00	10.0	1		SW6010C	5B02016	02/03/15 15:21
7440-48-4	Cobalt	**472.2**	**5.00**	10.0	12.5	1		SW6010C	5B02016	02/03/15 15:21
7440-50-8	Copper	**243.7**	**4.00**	8.00	10.0	1		SW6010C	5B02016	02/03/15 15:21
7439-89-6	Iron	**1027**	**30.0**	60.0	100	1		SW6010C	5B02016	02/03/15 15:21
7439-92-1	Lead	**236.6**	**1.50**	3.00	5.00	1		SW6010C	5B02016	02/03/15 15:21
7439-95-4	Magnesium	**4934**	**1000**	3000	5000	1	J	SW6010C	5B02016	02/03/15 15:21
7439-96-5	Manganese	**511.9**	**3.00**	6.00	15.0	1		SW6010C	5B02016	02/03/15 15:21
7440-02-0	Nickel	**468.0**	**3.00**	6.00	10.0	1		SW6010C	5B02016	02/03/15 15:21
7440-09-7	Potassium	**4657**	**1000**	3000	5000	1	J	SW6010C	5B02016	02/03/15 15:21
7782-49-2	Selenium	**235.3**	**3.00**	5.00	10.0	1		SW6010C	5B02016	02/03/15 15:21
7440-22-4	Silver	**242.3**	**1.00**	2.00	3.00	1		SW6010C	5B02016	02/03/15 15:21
7440-23-5	Sodium	**4844**	**1000**	3000	5000	1	J	SW6010C	5B02016	02/03/15 15:21
7440-28-0	Thallium	**247.3**	**3.00**	4.00	8.00	1		SW6010C	5B02016	02/03/15 15:21
7440-62-2	Vanadium	**476.8**	**5.00**	10.0	12.5	1		SW6010C	5B02016	02/03/15 15:21
7440-66-6	Zinc	**475.4**	**5.00**	10.0	20.0	1		SW6010C	5B02016	02/03/15 15:21

ANALYSIS DATA SHEET

Blank

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
% Solids:

SDG: 1501134
Project: Radford AAP
Laboratory ID: 5B04018-BLK1

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury	ND	0.0800	0.160	0.200	1	U	SW7470A	5B04018	02/05/15 13:27

ANALYSIS DATA SHEET

LCS

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
% Solids:

SDG: 1501134
Project: Radford AAP
Laboratory ID: 5B04018-BS1

CAS NO.	Analyte	Conc. (ug/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7439-97-6	Mercury	**2.027**	**0.0800**	0.160	0.200	1		SW7470A	5B04018	02/05/15 13:28

INITIAL AND CONTINUING CALIBRATION CHECK

SW6010C

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Instrument ID: ME-ICP

SDG: 1501134
Project: Radford AAP
Calibration: 5035001
Sequence: 5B03501

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
5B03501-ICV1	Aluminum	10000	10010	100	ug/L	+/- 10.00%
	Antimony	1000	976.8	97.7	ug/L	+/- 10.00%
	Arsenic	1000	1034	103	ug/L	+/- 10.00%
	Barium	1000	980.6	98.1	ug/L	+/- 10.00%
	Beryllium	1000	1012	101	ug/L	+/- 10.00%
	Cadmium	1000	1054	105	ug/L	+/- 10.00%
	Calcium	50000	50010	100	ug/L	+/- 10.00%
	Chromium	1000	996.2	99.6	ug/L	+/- 10.00%
	Cobalt	1000	943.7	94.4	ug/L	+/- 10.00%
	Copper	1000	974.3	97.4	ug/L	+/- 10.00%
	Iron	10000	10370	104	ug/L	+/- 10.00%
	Lead	1000	945.2	94.5	ug/L	+/- 10.00%
	Magnesium	50000	49900	99.8	ug/L	+/- 10.00%
	Manganese	1000	1026	103	ug/L	+/- 10.00%
	Nickel	1000	958.4	95.8	ug/L	+/- 10.00%
	Potassium	10000	9936	99.4	ug/L	+/- 10.00%
	Selenium	1000	1040	104	ug/L	+/- 10.00%
	Silver	500.0	505.1	101	ug/L	+/- 10.00%
	Sodium	50000	50190	100	ug/L	+/- 10.00%
	Thallium	1000	978.3	97.8	ug/L	+/- 10.00%
	Vanadium	1000	1015	102	ug/L	+/- 10.00%
	Zinc	1000	1031	103	ug/L	+/- 10.00%
5B03501-CCV1	Aluminum	10000	9968	99.7	ug/L	+/- 10.00%
	Antimony	1000	976.8	97.7	ug/L	+/- 10.00%
	Arsenic	1000	1034	103	ug/L	+/- 10.00%
	Barium	1000	957.6	95.8	ug/L	+/- 10.00%
	Beryllium	1000	1019	102	ug/L	+/- 10.00%
	Cadmium	1000	1060	106	ug/L	+/- 10.00%
	Calcium	50000	50300	101	ug/L	+/- 10.00%
	Chromium	1000	1008	101	ug/L	+/- 10.00%
	Cobalt	1000	952.5	95.2	ug/L	+/- 10.00%
	Copper	1000	977.4	97.7	ug/L	+/- 10.00%
	Iron	10000	10430	104	ug/L	+/- 10.00%
	Lead	1000	953.8	95.4	ug/L	+/- 10.00%
	Magnesium	50000	49850	99.7	ug/L	+/- 10.00%
	Manganese	1000	1053	105	ug/L	+/- 10.00%
	Nickel	1000	973.8	97.4	ug/L	+/- 10.00%
	Potassium	10000	10010	100	ug/L	+/- 10.00%

INITIAL AND CONTINUING CALIBRATION CHECK

SW6010C

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Instrument ID: ME-ICP

SDG: 1501134
Project: Radford AAP
Calibration: 5035001
Sequence: 5B03501

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
5B03501-CCV1	Selenium	1000	1037	104	ug/L	+/- 10.00%
	Silver	500.0	504.8	101	ug/L	+/- 10.00%
	Sodium	50000	49990	100	ug/L	+/- 10.00%
	Thallium	1000	972.3	97.2	ug/L	+/- 10.00%
	Vanadium	1000	996.3	99.6	ug/L	+/- 10.00%
	Zinc	1000	1025	102	ug/L	+/- 10.00%
5B03501-CCV5	Aluminum	10000	9923	99.2	ug/L	+/- 10.00%
	Antimony	1000	983.0	98.3	ug/L	+/- 10.00%
	Arsenic	1000	1020	102	ug/L	+/- 10.00%
	Barium	1000	966.2	96.6	ug/L	+/- 10.00%
	Beryllium	1000	1017	102	ug/L	+/- 10.00%
	Cadmium	1000	1056	106	ug/L	+/- 10.00%
	Calcium	50000	49560	99.1	ug/L	+/- 10.00%
	Chromium	1000	1018	102	ug/L	+/- 10.00%
	Cobalt	1000	950.5	95.0	ug/L	+/- 10.00%
	Copper	1000	971.1	97.1	ug/L	+/- 10.00%
	Iron	10000	10320	103	ug/L	+/- 10.00%
	Lead	1000	947.0	94.7	ug/L	+/- 10.00%
	Magnesium	50000	49840	99.7	ug/L	+/- 10.00%
	Manganese	1000	1052	105	ug/L	+/- 10.00%
	Nickel	1000	970.0	97.0	ug/L	+/- 10.00%
	Potassium	10000	9880	98.8	ug/L	+/- 10.00%
	Selenium	1000	1028	103	ug/L	+/- 10.00%
	Silver	500.0	498.4	99.7	ug/L	+/- 10.00%
	Sodium	50000	50260	101	ug/L	+/- 10.00%
	Thallium	1000	961.2	96.1	ug/L	+/- 10.00%
	Vanadium	1000	1007	101	ug/L	+/- 10.00%
	Zinc	1000	1026	103	ug/L	+/- 10.00%
5B03501-CCV6	Aluminum	10000	9835	98.4	ug/L	+/- 10.00%
	Antimony	1000	980.8	98.1	ug/L	+/- 10.00%
	Arsenic	1000	1004	100	ug/L	+/- 10.00%
	Barium	1000	967.9	96.8	ug/L	+/- 10.00%
	Beryllium	1000	1016	102	ug/L	+/- 10.00%
	Cadmium	1000	1050	105	ug/L	+/- 10.00%
	Calcium	50000	48720	97.4	ug/L	+/- 10.00%
	Chromium	1000	1022	102	ug/L	+/- 10.00%
	Cobalt	1000	942.3	94.2	ug/L	+/- 10.00%
	Copper	1000	950.6	95.1	ug/L	+/- 10.00%

INITIAL AND CONTINUING CALIBRATION CHECK

SW6010C

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Instrument ID: ME-ICP

SDG: 1501134
Project: Radford AAP
Calibration: 5035001
Sequence: 5B03501

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
5B03501-CCV6	Iron	10000	10230	102	ug/L	+/- 10.00%
	Lead	1000	935.5	93.6	ug/L	+/- 10.00%
	Magnesium	50000	49590	99.2	ug/L	+/- 10.00%
	Manganese	1000	1027	103	ug/L	+/- 10.00%
	Nickel	1000	960.8	96.1	ug/L	+/- 10.00%
	Potassium	10000	9694	96.9	ug/L	+/- 10.00%
	Selenium	1000	1022	102	ug/L	+/- 10.00%
	Silver	500.0	485.0	97.0	ug/L	+/- 10.00%
	Sodium	50000	50430	101	ug/L	+/- 10.00%
	Thallium	1000	949.3	94.9	ug/L	+/- 10.00%
	Vanadium	1000	1002	100	ug/L	+/- 10.00%
	Zinc	1000	1022	102	ug/L	+/- 10.00%

INITIAL AND CONTINUING CALIBRATION CHECK

SW7470A

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Instrument ID: ME-FIMS

SDG: 1501134
Project: Radford AAP
Calibration: 5036002
Sequence: 5B03606

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
5B03606-ICV1	Mercury	4.000	3.973	99.3	ug/L	+/- 20.00%
5B03606-CCV1	Mercury	2.000	1.968	98.4	ug/L	+/- 20.00%
5B03606-CCV2	Mercury	2.000	1.954	97.7	ug/L	+/- 20.00%
5B03606-CCV3	Mercury	4.000	4.074	102	ug/L	+/- 20.00%

CRDL STANDARD

SW6010C

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Instrument ID: ME-ICP
Calibration: 5035001
Sequence: 5B03501

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
5B03501-CRL1	Aluminum	100.0	101.7	102	ug/L	80 - 120
	Antimony	8.000	9.073	113	ug/L	80 - 120
	Barium	10.00	9.759	97.6	ug/L	80 - 120
	Beryllium	2.000	2.021	101	ug/L	80 - 120
	Cadmium	2.000	2.041	102	ug/L	80 - 120
	Calcium	2000	2027	101	ug/L	80 - 120
	Chromium	4.000	4.178	104	ug/L	80 - 120
	Cobalt	10.00	9.582	95.8	ug/L	80 - 120
	Copper	8.000	8.640	108	ug/L	80 - 120
	Iron	60.00	67.39	112	ug/L	80 - 120
	Lead	3.000	2.708	90.2	ug/L	80 - 120
	Magnesium	3000	3128	104	ug/L	80 - 120
	Manganese	6.000	6.508	108	ug/L	80 - 120
	Nickel	6.000	5.985	99.7	ug/L	80 - 120
	Potassium	3000	2930	97.7	ug/L	80 - 120
	Silver	2.000	1.776	88.8	ug/L	80 - 120
	Sodium	3000	3077	103	ug/L	80 - 120
	Thallium	4.000	3.837	95.9	ug/L	80 - 120
	Vanadium	10.00	9.684	96.8	ug/L	80 - 120
	Zinc	10.00	9.929	99.3	ug/L	80 - 120
5B03501-CRL2	Arsenic	5.000	4.452	89.0	ug/L	80 - 120
	Selenium	5.000	5.604	112	ug/L	80 - 120

BLANKS
SW6010C

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Instrument ID: ME-ICP
Project: Radford AAP
Sequence: 5B03501
Calibration: 5035001

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
5B03501-ICB1	Aluminum	-5.558	50.0	200	ug/L	U	SW6010C
	Antimony	1.775	5.00	15.0	ug/L	U	SW6010C
	Arsenic	-0.8099	3.00	10.0	ug/L	U	SW6010C
	Barium	0.05133	5.00	40.0	ug/L	U	SW6010C
	Beryllium	-0.02021	1.00	5.00	ug/L	U	SW6010C
	Cadmium	-0.01314	1.00	5.00	ug/L	U	SW6010C
	Calcium	-0.4400	1000	5000	ug/L	U	SW6010C
	Chromium	0.01110	2.00	10.0	ug/L	U	SW6010C
	Cobalt	0.08685	5.00	12.5	ug/L	U	SW6010C
	Copper	0.6724	4.00	10.0	ug/L	U	SW6010C
	Iron	12.20	30.0	100	ug/L	U	SW6010C
	Lead	0.02383	1.50	5.00	ug/L	U	SW6010C
	Magnesium	22.19	1000	5000	ug/L	U	SW6010C
	Manganese	0.02421	3.00	15.0	ug/L	U	SW6010C
	Nickel	0.1362	3.00	10.0	ug/L	U	SW6010C
	Potassium	-3.810	1000	5000	ug/L	U	SW6010C
	Selenium	0.3017	3.00	10.0	ug/L	U	SW6010C
	Silver	-0.1066	1.00	3.00	ug/L	U	SW6010C
	Sodium	7.030	1000	5000	ug/L	U	SW6010C
	Thallium	-0.6330	3.00	8.00	ug/L	U	SW6010C
	Vanadium	0.1055	5.00	12.5	ug/L	U	SW6010C
	Zinc	0.001970	5.00	20.0	ug/L	U	SW6010C
5B03501-CCB1	Aluminum	-12.9	50.0	200	ug/L	U	SW6010C
	Antimony	1.07	5.00	15.0	ug/L	U	SW6010C
	Arsenic	-0.623	3.00	10.0	ug/L	U	SW6010C
	Barium	0.0577	5.00	40.0	ug/L	U	SW6010C
	Beryllium	0.0404	1.00	5.00	ug/L	U	SW6010C
	Cadmium	-0.00364	1.00	5.00	ug/L	U	SW6010C
	Calcium	-1.57	1000	5000	ug/L	U	SW6010C
	Chromium	0.232	2.00	10.0	ug/L	U	SW6010C
	Cobalt	-0.0290	5.00	12.5	ug/L	U	SW6010C
	Copper	0.890	4.00	10.0	ug/L	U	SW6010C
	Iron	19.2	30.0	100	ug/L	U	SW6010C

BLANKS
SW6010C

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Instrument ID: ME-ICP
Project: Radford AAP
Sequence: 5B03501
Calibration: 5035001

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
5B03501-CCB1	Lead	0.225	1.50	5.00	ug/L	U	SW6010C
	Magnesium	11.1	1000	5000	ug/L	U	SW6010C
	Manganese	0.0515	3.00	15.0	ug/L	U	SW6010C
	Nickel	0.122	3.00	10.0	ug/L	U	SW6010C
	Potassium	2.59	1000	5000	ug/L	U	SW6010C
	Selenium	-0.589	3.00	10.0	ug/L	U	SW6010C
	Silver	-0.0583	1.00	3.00	ug/L	U	SW6010C
	Sodium	11.9	1000	5000	ug/L	U	SW6010C
	Thallium	-0.810	3.00	8.00	ug/L	U	SW6010C
	Vanadium	0.0342	5.00	12.5	ug/L	U	SW6010C
	Zinc	0.0156	5.00	20.0	ug/L	U	SW6010C
5B03501-CCB5	Aluminum	-9.72	50.0	200	ug/L	U	SW6010C
	Antimony	1.79	5.00	15.0	ug/L	U	SW6010C
	Arsenic	-0.748	3.00	10.0	ug/L	U	SW6010C
	Barium	0.158	5.00	40.0	ug/L	U	SW6010C
	Beryllium	0.0174	1.00	5.00	ug/L	U	SW6010C
	Cadmium	0.167	1.00	5.00	ug/L	U	SW6010C
	Calcium	0.730	1000	5000	ug/L	U	SW6010C
	Chromium	0.118	2.00	10.0	ug/L	U	SW6010C
	Cobalt	0.186	5.00	12.5	ug/L	U	SW6010C
	Copper	0.592	4.00	10.0	ug/L	U	SW6010C
	Iron	-0.723	30.0	100	ug/L	U	SW6010C
	Lead	0.293	1.50	5.00	ug/L	U	SW6010C
	Magnesium	4.16	1000	5000	ug/L	U	SW6010C
	Manganese	0.0574	3.00	15.0	ug/L	U	SW6010C
	Nickel	0.157	3.00	10.0	ug/L	U	SW6010C
	Potassium	-1.94	1000	5000	ug/L	U	SW6010C
	Selenium	0.402	3.00	10.0	ug/L	U	SW6010C
	Silver	-0.0289	1.00	3.00	ug/L	U	SW6010C
	Sodium	5.00	1000	5000	ug/L	U	SW6010C
	Thallium	0.386	3.00	8.00	ug/L	U	SW6010C
	Vanadium	0.242	5.00	12.5	ug/L	U	SW6010C
	Zinc	0.0744	5.00	20.0	ug/L	U	SW6010C

BLANKS
SW6010C

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Instrument ID: ME-ICP
Project: Radford AAP
Sequence: 5B03501
Calibration: 5035001

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
5B02016-BLK1	Aluminum	-3.91	50.0	200	ug/L	U	SW6010C
	Antimony	1.56	5.00	15.0	ug/L	U	SW6010C
	Arsenic	-0.709	3.00	10.0	ug/L	U	SW6010C
	Barium	0.666	5.00	40.0	ug/L	U	SW6010C
	Beryllium	0.0159	1.00	5.00	ug/L	U	SW6010C
	Cadmium	0.0537	1.00	5.00	ug/L	U	SW6010C
	Calcium	8.85	1000	5000	ug/L	U	SW6010C
	Chromium	0.264	2.00	10.0	ug/L	U	SW6010C
	Cobalt	0.0898	5.00	12.5	ug/L	U	SW6010C
	Copper	0.647	4.00	10.0	ug/L	U	SW6010C
	Iron	1.44	30.0	100	ug/L	U	SW6010C
	Lead	-0.226	1.50	5.00	ug/L	U	SW6010C
	Magnesium	5.32	1000	5000	ug/L	U	SW6010C
	Manganese	0.118	3.00	15.0	ug/L	U	SW6010C
	Nickel	0.119	3.00	10.0	ug/L	U	SW6010C
	Potassium	-5.40	1000	5000	ug/L	U	SW6010C
	Selenium	0.163	3.00	10.0	ug/L	U	SW6010C
	Silver	-0.313	1.00	3.00	ug/L	U	SW6010C
	Sodium	14.8	1000	5000	ug/L	U	SW6010C
	Thallium	-0.128	3.00	8.00	ug/L	U	SW6010C
	Vanadium	0.0914	5.00	12.5	ug/L	U	SW6010C
	Zinc	0.985	5.00	20.0	ug/L	U	SW6010C
5B03501-CCB6	Aluminum	-10.8	50.0	200	ug/L	U	SW6010C
	Antimony	1.03	5.00	15.0	ug/L	U	SW6010C
	Arsenic	-0.0591	3.00	10.0	ug/L	U	SW6010C
	Barium	0.0868	5.00	40.0	ug/L	U	SW6010C
	Beryllium	-0.00960	1.00	5.00	ug/L	U	SW6010C
	Cadmium	0.0313	1.00	5.00	ug/L	U	SW6010C
	Calcium	-0.470	1000	5000	ug/L	U	SW6010C
	Chromium	0.179	2.00	10.0	ug/L	U	SW6010C
	Cobalt	0.202	5.00	12.5	ug/L	U	SW6010C
	Copper	0.361	4.00	10.0	ug/L	U	SW6010C
	Iron	-1.97	30.0	100	ug/L	U	SW6010C

BLANKS
SW6010C

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Instrument ID: ME-ICP
Project: Radford AAP
Sequence: 5B03501
Calibration: 5035001

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
5B03501-CCB6	Lead	-0.0844	1.50	5.00	ug/L	U	SW6010C
	Magnesium	1.58	1000	5000	ug/L	U	SW6010C
	Manganese	0.0396	3.00	15.0	ug/L	U	SW6010C
	Nickel	0.141	3.00	10.0	ug/L	U	SW6010C
	Potassium	-8.84	1000	5000	ug/L	U	SW6010C
	Selenium	0.775	3.00	10.0	ug/L	U	SW6010C
	Silver	0.143	1.00	3.00	ug/L	U	SW6010C
	Sodium	1.68	1000	5000	ug/L	U	SW6010C
	Thallium	0.456	3.00	8.00	ug/L	U	SW6010C
	Vanadium	0.191	5.00	12.5	ug/L	U	SW6010C
	Zinc	-0.0120	5.00	20.0	ug/L	U	SW6010C

BLANKS
SW7470A

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Instrument ID: ME-FIMS
Project: Radford AAP
Sequence: 5B03606
Calibration: 5036002

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
5B03606-ICB1	Mercury	-0.02207	0.0800	0.200	ug/L	U	SW7470A
5B03606-CCB1	Mercury	-0.0124	0.0800	0.200	ug/L	U	SW7470A
5B04018-BLK1	Mercury	-0.0253	0.0800	0.200	ug/L	U	SW7470A
5B03606-CCB2	Mercury	0.00454	0.0800	0.200	ug/L	U	SW7470A
5B03606-CCB3	Mercury	-0.0118	0.0800	0.200	ug/L	U	SW7470A

ICP INTERFERENCE CHECK SAMPLE

SW6010C

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Instrument ID: ME-ICP
Calibration: 5035001
Sequence: 5B03501

Lab Sample ID	Analyte	True	Found	%R	Units
5B03501-IFA1	Aluminum	500000	517,130.00	103	ug/L
	Antimony		-0.56		ug/L
	Arsenic		-2.47		ug/L
	Barium		1.74		ug/L
	Beryllium		0.07		ug/L
	Cadmium		-0.70		ug/L
	Calcium	500000	477,140.00	95.4	ug/L
	Chromium		0.24		ug/L
	Cobalt		-1.43		ug/L
	Copper		0.73		ug/L
	Iron	200000	206,530.00	103	ug/L
	Lead		-1.18		ug/L
	Magnesium	500000	481,300.00	96.3	ug/L
	Manganese		-3.15		ug/L
	Nickel		-4.30		ug/L
	Potassium		-4.49		ug/L
	Selenium		-0.17		ug/L
	Silver		-0.27		ug/L
	Sodium		107.76		ug/L
	Thallium		-0.83		ug/L
	Vanadium		0.20		ug/L
	Zinc		-7.04		ug/L
5B03501-IFB1	Aluminum	500000	517,270.00	103	ug/L
	Antimony	600.0	614.93	102	ug/L
	Arsenic	100.0	106.52	107	ug/L
	Barium	500.0	512.54	103	ug/L
	Beryllium	500.0	494.76	99.0	ug/L
	Cadmium	1000	1,067.70	107	ug/L
	Calcium	500000	475,580.00	95.1	ug/L

ICP INTERFERENCE CHECK SAMPLE

SW6010C

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Instrument ID: ME-ICP
Calibration: 5035001
Sequence: 5B03501

Lab Sample ID	Analyte	True	Found	%R	Units
5B03501-IFB1	Chromium	500.0	476.12	95.2	ug/L
	Cobalt	500.0	475.04	95.0	ug/L
	Copper	500.0	484.75	97.0	ug/L
	Iron	200000	207,680.00	104	ug/L
	Lead	50.00	44.33	88.6	ug/L
	Magnesium	500000	482,390.00	96.5	ug/L
	Manganese	500.0	504.71	101	ug/L
	Nickel	1000	936.17	93.6	ug/L
	Potassium		-0.99		ug/L
	Selenium	50.00	52.07	104	ug/L
	Silver	200.0	208.00	104	ug/L
	Sodium		158.37		ug/L
	Thallium	100.0	90.87	90.9	ug/L
	Vanadium	500.0	484.37	96.9	ug/L
	Zinc	1000	1,020.50	102	ug/L

LCS / LCS DUPLICATE RECOVERY

SW6010C

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Matrix: Water
Batch: 5B02016
Laboratory ID: 5B02016-BS1
Preparation: MET_3005A
Initial/Final: 50 mL / 50 mL

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	QC LIMITS REC.
Aluminum	2000	1896	94.8	80 - 120
Antimony	250.0	234.1	93.6	80 - 120
Arsenic	250.0	234.8	93.9	80 - 120
Barium	2000	1855	92.7	80 - 120
Beryllium	50.00	49.04	98.1	80 - 120
Cadmium	125.0	126.7	101	80 - 120
Calcium	5000	4814	96.3	80 - 120
Chromium	200.0	195.9	97.9	80 - 120
Cobalt	500.0	472.2	94.4	80 - 120
Copper	250.0	243.7	97.5	80 - 120
Iron	1000	1027	103	80 - 120
Lead	250.0	236.6	94.6	80 - 120
Magnesium	5000	4934	98.7	80 - 120
Manganese	500.0	511.9	102	80 - 120
Nickel	500.0	468.0	93.6	80 - 120
Potassium	5000	4657	93.1	80 - 120
Selenium	250.0	235.3	94.1	80 - 120
Silver	250.0	242.3	96.9	80 - 120
Sodium	5000	4844	96.9	80 - 120
Thallium	250.0	247.3	98.9	80 - 120
Vanadium	500.0	476.8	95.4	80 - 120
Zinc	500.0	475.4	95.1	80 - 120

LCS / LCS DUPLICATE RECOVERY

SW7470A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134
Client:	CB&I	Project:	Radford AAP
Matrix:	Water		
Batch:	5B04018	Laboratory ID:	5B04018-BS1
Preparation:	pMercury-W SW 7470A	Initial/Final:	30 mL / 30 mL

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	QC LIMITS REC.
Mercury	2.000	2.027	101	80 - 120

10A-IN
ICP-AES INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: Empirical Laboratories, LLC Contract: CB&I

SDG No.: 1501134

ICP-AES Instrument ID: Thermo Jarrell Ashe ICAP Date: 12/27/2013

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Al	Ca	Fe	Mg	Ag
Aluminum	396.152	0.000000	0.560011	0.000043	0.000000	0.000000
Antimony	206.8	0.000012	0.000000	0.000023	0.000000	0.000000
Arsenic	189.042	-0.000011	0.000000	-0.00004	0.000000	0.000000
Barium	233.527	0.000000	0.000000	0.000005	0.000000	0.000000
Beryllium	313.042	0.000000	0.000000	0.000000	0.000000	0.000000
Cadmium	214.438	0.000008	0.003803	0.000029	0.000000	0.000000
Calcium	317.933	0.000000	0.000000	0.000000	0.000000	0.000000
Chromium	267.716	0.000000	0.000000	0.000003	0.005608	0.000000
Cobalt	228.616	0.000000	0.000000	0.000042	0.000000	0.000000
Copper	324.754	0.000001	0.000000	-0.000028	0.001001	0.000000
Iron	261.187	0.000000	0.000000	0.000000	0.000000	0.000000
Lead	220.3	-0.000132	0.000000	0.000026	0.000000	0.000000
Magnesium	279.079	0.000000	0.000000	-0.000001	0.000000	0.000000
Manganese	257.61	0.000000	0.000000	0.000025	0.000000	0.000000
Nickel	231.604	0.000001	0.000009	0.000029	0.002042	0.000000
Potassium	766.49	0.000000	0.000000	0.000000	0.000000	0.000000
Selenium	196.09	0.000015	-0.007295	0.000025	0.000000	0.000000
Silver	328.068	0.000000	0.000000	0.000004	0.000000	0.000000
Sodium	589.592	0.000000	0.000000	0.000000	0.000000	0.000000
Thallium	190.8	0.000004	0.000000	0.000008	0.000000	0.000000
Vanadium	292.4	0.000000	0.000000	-0.000008	0.000000	0.000000
Zinc	206.2	0.000014	0.000827	-0.000001	0.000000	0.000000

Comments:

FORM XA-IN

10A-IN
ICP-AES INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: Empirical Laboratories, LLC Contract: CB&I

SDG No.: 1501134

ICP-AES Instrument ID: Thermo Jarrell Ashe ICAP Date: 12/27/2013

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		As	B	Ba	Be	Cd
Aluminum	396.152	0.000000	0.000000	0.000000	0.000000	0.000000
Antimony	206.8	0.000000	0.000000	0.000000	0.000000	0.000000
Arsenic	189.042	0.000000	0.000000	0.000000	0.000000	0.000000
Barium	233.527	0.000000	0.000000	0.000000	0.000000	0.000000
Beryllium	313.042	0.000000	0.000000	0.000000	0.000000	0.000000
Cadmium	214.438	-0.000313	0.000000	0.000000	0.000000	0.000000
Calcium	317.933	0.000000	0.000000	0.000000	0.000000	0.000000
Chromium	267.716	0.000000	0.000000	0.000000	0.000000	0.000043
Cobalt	228.616	0.000000	0.000000	0.000000	0.000000	0.000000
Copper	324.754	0.000000	0.000000	0.000000	0.000000	0.000000
Iron	261.187	0.000000	0.000000	0.000000	0.000000	0.000000
Lead	220.3	0.000000	0.000000	0.000000	0.000000	0.000000
Magnesium	279.079	0.000000	0.000000	0.000000	0.000000	0.000000
Manganese	257.61	0.000000	0.000000	0.000000	0.000000	0.000000
Nickel	231.604	0.000000	0.000000	0.000000	-0.000039	0.000000
Potassium	766.49	0.000000	0.000000	0.000000	0.000000	0.000000
Selenium	196.09	0.000000	0.000000	0.000000	0.000000	0.000000
Silver	328.068	0.000000	0.000000	0.000000	0.000000	0.000000
Sodium	589.592	0.000000	0.000000	0.000000	0.000000	0.000000
Thallium	190.8	0.000000	0.000000	0.000000	0.000000	0.000000
Vanadium	292.4	0.000000	0.000000	0.000000	0.000000	0.000000
Zinc	206.2	0.000000	0.000000	0.000000	0.001494	0.000425

Comments:

FORM XA-IN

USEPA - CLP

10A-IN
ICP-AES INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: Empirical Laboratories, LLC Contract: CB&I

SDG No.: 1501134

ICP-AES Instrument ID: Thermo Jarrell Ashe ICAP Date: 12/27/2013

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Co	Cr	Cu	K	Mn
Aluminum	396.152	0.000000	0.000000	0.000000	0.000000	0.000000
Antimony	206.8	0.000000	0.010038	0.000000	0.000000	0.000000
Arsenic	189.042	0.000000	0.000195	0.000000	0.000000	0.000000
Barium	233.527	0.000000	0.000000	0.000000	0.000000	0.000000
Beryllium	313.042	0.000000	0.000000	0.000000	0.000000	0.000000
Cadmium	214.438	0.000000	-0.000301	0.000000	0.000000	0.000000
Calcium	317.933	0.000000	0.000000	0.000000	0.000000	0.000000
Chromium	267.716	0.000000	0.000000	0.000000	0.000000	0.000088
Cobalt	228.616	0.000000	-0.000032	0.000000	0.000000	0.000000
Copper	324.754	0.000000	0.000000	0.000000	0.000000	0.000002
Iron	261.187	0.000000	-0.000701	0.000000	0.000000	-0.000794
Lead	220.3	-0.000003	0.000000	0.001073	0.000000	0.000116
Magnesium	279.079	0.000000	0.000000	0.000000	0.000000	0.000000
Manganese	257.61	0.000000	0.000000	0.000000	0.000000	0.000000
Nickel	231.604	-0.000048	-0.000079	0.000000	0.000000	0.000000
Potassium	766.49	0.000000	0.000000	0.000000	0.000000	0.000000
Selenium	196.09	0.000000	0.000000	0.000000	0.000000	0.00061
Silver	328.068	0.000000	0.000000	0.000000	0.000000	0.00014
Sodium	589.592	0.000000	0.000000	0.000000	0.000000	0.000000
Thallium	190.8	0.001892	0.000203	0.000000	0.000000	0.001269
Vanadium	292.4	0.000000	-0.009179	0.000000	0.000000	-0.00088
Zinc	206.2	0.000000	0.000078	0.000001	0.000000	0.000673

Comments:

FORM XA-IN

10A-IN
ICP-AES INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: Empirical Laboratories, LLC Contract: CB&I

SDG No.: 1501134

ICP-AES Instrument ID: Thermo Jarrell Ashe ICAP Date: 12/27/2013

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Mo	Na	Ni	Pb	Sb
Aluminum	396.152	0.042196	0.000000	0.000000	0.000000	0.000000
Antimony	206.8	-0.003563	0.000000	0.000000	0.000000	0.000000
Arsenic	189.042	0.000577	0.000000	0.000000	0.000000	0.000000
Barium	233.527	0.000000	0.000000	0.000000	0.000000	0.000000
Beryllium	313.042	-0.000025	0.000000	0.000000	0.000000	0.000000
Cadmium	214.438	-0.000105	0.000000	0.000000	0.000000	0.000000
Calcium	317.933	0.000000	0.000000	0.000000	0.000000	0.000000
Chromium	267.716	0.000000	0.000000	0.000000	0.000000	0.000000
Cobalt	228.616	-0.000748	0.000000	0.000049	0.000000	0.000000
Copper	324.754	0.0012	0.000000	0.000000	0.000000	0.000000
Iron	261.187	0.000000	0.000000	0.000000	0.000000	0.000000
Lead	220.3	-0.000317	0.000000	0.000224	0.000000	0.000000
Magnesium	279.079	-0.000013	0.000000	0.000000	0.000000	0.000000
Manganese	257.61	0.000000	0.000000	0.000000	0.000000	0.000000
Nickel	231.604	-0.000223	0.000000	0.000000	0.000017	-0.00003
Potassium	766.49	0.000000	0.000000	0.000000	0.000000	0.000000
Selenium	196.09	0.000166	0.000000	0.000039	0.000000	0.000000
Silver	328.068	-0.000046	0.000000	0.000000	0.000000	0.000000
Sodium	589.592	0.000000	0.000000	0.000000	0.000000	0.000000
Thallium	190.8	0.000023	0.000000	0.000000	0.000000	0.000000
Vanadium	292.4	-0.000106	0.000000	0.000000	0.000000	0.000000
Zinc	206.2	0.000173	0.000000	0.000200	0.000000	0.000004

Comments:

FORM XA-IN

USEPA - CLP

10A-IN
ICP-AES INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: Empirical Laboratories, LLC Contract: CB&I

SDG No.: 1501134

ICP-AES Instrument ID: Thermo Jarrell Ashe ICAP Date: 12/27/2013

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Se	Sn	Ti	Tl	V
Aluminum	396.152	0.000000	0.000000	0.000000	0.000000	0.000000
Antimony	206.8	0.000000	0.000000	0.000252	0.000000	0.000048
Arsenic	189.042	0.000000	0.000000	0.000075	0.000000	0.000084
Barium	233.527	0.000000	0.000000	0.000000	0.000000	-0.002594
Beryllium	313.042	0.000000	0.000000	-0.000485	0.000000	0.000417
Cadmium	214.438	0.000000	0.000000	0.000000	0.000000	0.00003
Calcium	317.933	0.000000	0.000000	0.000000	0.000000	0.000000
Chromium	267.716	0.000000	0.000000	0.000123	0.000000	-0.000018
Cobalt	228.616	0.000000	0.000000	0.002252	0.000000	0.000000
Copper	324.754	0.000000	0.000000	-0.000409	0.000000	-0.000006
Iron	261.187	0.000000	0.000000	0.000000	0.000000	0.000000
Lead	220.3	0.000000	0.000000	-0.000006	0.000000	-0.00007
Magnesium	279.079	0.000000	0.000000	0.000000	0.000000	0.000000
Manganese	257.61	0.000000	0.000000	0.000000	0.000000	0.000000
Nickel	231.604	0.000000	0.000000	0.000001	0.000281	0.000002
Potassium	766.49	0.000000	0.000000	0.000000	0.000000	0.000000
Selenium	196.09	0.000000	0.000000	0.000022	0.000000	0.000180
Silver	328.068	0.000000	0.000000	0.000000	0.000000	-0.002831
Sodium	589.592	0.000000	0.000000	0.000000	0.000000	0.000000
Thallium	190.8	0.000000	0.000000	-0.001194	0.000000	-0.008687
Vanadium	292.4	0.000000	0.000000	-0.000197	0.000000	0.000000
Zinc	206.2	-0.000008	0.000000	0.000000	0.000000	0.000226

Comments:

FORM XA-IN

10A-IN
ICP-AES INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: Empirical Laboratories, LLC Contract: CB&I

SDG No.: 1501134

ICP-AES Instrument ID: Thermo Jarrell Ashe ICAP Date: 12/27/2013

Analyte	Wave-length (nm)	Interelement Correction Factors for: Zn				
Aluminum	396.152	0.000000				
Antimony	206.8	0.000000				
Arsenic	189.042	-0.000011				
Barium	233.527	0.000000				
Beryllium	313.042	0.000000				
Cadmium	214.438	0.000000				
Calcium	317.933	0.000000				
Chromium	267.716	0.000000				
Cobalt	228.616	0.000000				
Copper	324.754	0.000000				
Iron	261.187	0.000000				
Lead	220.3	0.000000				
Magnesium	279.079	0.000000				
Manganese	257.61	0.000000				
Nickel	231.604	-0.000003				
Potassium	766.49	0.000000				
Selenium	196.09	0.000000				
Silver	328.068	0.000000				
Sodium	589.592	0.000000				
Thallium	190.8	0.000000				
Vanadium	292.4	0.000000				
Zinc	206.2	0.000000				

Comments:

FORM XA-IN

ICP-AES AND ICP-MS LINEAR RANGES

Lab Name: Empirical Laboratories, LLC

Client: CB&I SDG: 1501134

Project: Radford AAP

ICP Instrument ID: ME-ICP Date: 06/27/2014

Analyte	Integ. Time (Sec.)	Concentration ug/L	M
Aluminum	15	500000	P
Antimony	15	25000	P
Arsenic	15	10000	P
Barium	15	5000	P
Beryllium	15	10000	P
Cadmium	15	10000	P
Calcium	15	500000	P
Chromium	15	10000	P
Cobalt	15	10000	P
Copper	15	25000	P
Iron	15	500000	P
Lead	15	25000	P
Magnesium	15	500000	P
Nickel	15	50000	P
Potassium	15	100000	P
Selenium	15	10000	P
Silver	15	2000	P
Sodium	15	500000	P
Thallium	15	10000	P
Vanadium	15	30000	P
Zinc	15	20000	P

ICP-AES AND ICP-MS LINEAR RANGES

Lab Name: Empirical Laboratories, LLC

Client: CB&I SDG: 1501134

Project: Radford AAP

ICP Instrument ID: ME-ICP Date: 09/11/2014

Analyte	Integ. Time (Sec.)	Concentration ug/L	M
Manganese	15	20000	P

PREPARATION BATCH SUMMARY

SW6010C

Laboratory: Empirical Laboratories, LLC SDG: 1501134

Client: CB&I Project: Radford AAP

Batch: 5B02016 Batch Matrix: Water Preparation: MET_3005A

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
ADW01	1501134-04	02/02/15 09:05	50.00	50.00
Blank	5B02016-BLK1	02/02/15 09:05	50.00	50.00
LCS	5B02016-BS1	02/02/15 09:05	50.00	50.00

PREPARATION BATCH SUMMARY

SW7470A

Laboratory: Empirical Laboratories, LLC SDG: 1501134

Client: CB&I Project: Radford AAP

Batch: 5B04018 Batch Matrix: Water Preparation: pMercury-W SW 7470A

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
ADW01	1501134-04	02/05/15 09:10	30.00	30.00
Blank	5B04018-BLK1	02/05/15 09:10	30.00	30.00
LCS	5B04018-BS1	02/05/15 09:10	30.00	30.00

ANALYSIS SEQUENCE SUMMARY

SW6010C

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Sequence: 5B03501
Instrument: ME-ICP
Calibration: 5035001

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	5B03501-CAL1	02-03-15A-001	02/03/15 09:31
Cal Standard	5B03501-CAL2	02-03-15A-002	02/03/15 09:35
Cal Standard	5B03501-CAL3	02-03-15A-003	02/03/15 09:39
Cal Standard	5B03501-CAL4	02-03-15A-004	02/03/15 09:42
Cal Standard	5B03501-CAL5	02-03-15A-005	02/03/15 09:47
Cal Standard	5B03501-CAL6	02-03-15A-006	02/03/15 09:52
Cal Standard	5B03501-CAL7	02-03-15A-007	02/03/15 09:57
Cal Standard	5B03501-CAL8	02-03-15A-008	02/03/15 10:01
Initial Cal Check	5B03501-ICV1	02-03-15B-001	02/03/15 10:40
Initial Cal Blank	5B03501-ICB1	02-03-15B-002	02/03/15 10:47
Instrument RL Check	5B03501-CRL1	02-03-15B-003	02/03/15 10:54
Instrument RL Check	5B03501-CRL2	02-03-15B-004	02/03/15 10:59
Interference Check A	5B03501-IFA1	02-03-15B-008	02/03/15 11:24
Interference Check B	5B03501-IFB1	02-03-15B-009	02/03/15 11:29
Calibration Check	5B03501-CCV1	02-03-15C-001	02/03/15 11:44
Calibration Blank	5B03501-CCB1	02-03-15C-002	02/03/15 11:52
Calibration Check	5B03501-CCV5	02-03-15C-043	02/03/15 15:05
Calibration Blank	5B03501-CCB5	02-03-15C-044	02/03/15 15:12
Blank	5B02016-BLK1	02-03-15C-045	02/03/15 15:17
LCS	5B02016-BS1	02-03-15C-046	02/03/15 15:21
ADW01	1501134-04	02-03-15C-047	02/03/15 15:26
Calibration Check	5B03501-CCV6	02-03-15C-057	02/03/15 16:10
Calibration Blank	5B03501-CCB6	02-03-15C-058	02/03/15 16:18

ANALYSIS SEQUENCE SUMMARY

SW7470A

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Sequence: 5B03606
Instrument: ME-FIMS
Calibration: 5036002

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	5B03606-CAL1	020515W-001	02/05/15 13:06
Cal Standard	5B03606-CAL2	020515W-002	02/05/15 13:07
Cal Standard	5B03606-CAL3	020515W-003	02/05/15 13:08
Cal Standard	5B03606-CAL4	020515W-004	02/05/15 13:10
Cal Standard	5B03606-CAL5	020515W-005	02/05/15 13:11
Cal Standard	5B03606-CAL6	020515W-006	02/05/15 13:12
Cal Standard	5B03606-CAL7	020515W-007	02/05/15 13:13
Cal Standard	5B03606-CAL8	020515W-008	02/05/15 13:15
Initial Cal Check	5B03606-ICV1	020515W-009	02/05/15 13:17
Initial Cal Blank	5B03606-ICB1	020515W-010	02/05/15 13:19
Calibration Check	5B03606-CCV1	020515W-016	02/05/15 13:25
Calibration Blank	5B03606-CCB1	020515W-017	02/05/15 13:26
Blank	5B04018-BLK1	020515W-018	02/05/15 13:27
LCS	5B04018-BS1	020515W-019	02/05/15 13:28
Calibration Check	5B03606-CCV2	020515W-032	02/05/15 13:41
Calibration Blank	5B03606-CCB2	020515W-033	02/05/15 13:43
ADW01	1501134-04	020515W-038	02/05/15 13:49
Calibration Check	5B03606-CCV3	020515W-043	02/05/15 13:54
Calibration Blank	5B03606-CCB3	020515W-044	02/05/15 13:55

INITIAL CALIBRATION DATA

SW6010C

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Calibration: 5035001
Instrument: ME-ICP
Matrix: Water
Calibration Dates: 2/3/15 9:31 2/3/15 10:01

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Aluminum	0	0	5000	0.0000196	10000	1.9904E-05			500000	2.0088E-05		
Antimony	0	0	100	0.0003955	1000	4.7944E-04					10000	4.6611E-04
Arsenic	0	0	100	0.0003135	1000	3.5124E-04					10000	3.3884E-04
Barium	0	0	50	0.0085956	1000	0.0078197	5000	0.0079582				
Beryllium	0	0	100	0.0022411	1000	0.002265					10000	0.002189
Boron	0	0	50	0.0000138	1000	1.278E-05					5000	1.2942E-05
Cadmium	0	0	100	0.017997	1000	0.018796					10000	0.017441
Calcium	0	0	1100	6.975454E-05	50000	6.5224E-05					10000	
Chromium	0	0	100	0.0000457	1000	4.515E-05					10000	4.4458E-05
Cobalt	0	0	100	0.0047634	1000	0.0046804					10000	0.0047952
Copper	0	0	100	0.0000728	1000	6.811E-05					10000	7.0159E-05
Iron	0	0	5100	1.89098E-05	10000	1.821E-05			500000	1.78408E-05	10000	
Lead	0	0	100	0.0010089	1000	0.0010192					10000	0.001069
Magnesium	0	0	5100		50000	2.7934E-06			500000	2.8348E-06	10000	
Manganese	0	0	100	0.0002343	1000	2.2508E-04	10000	2.1873E-04			10000	
Molybdenum	0	0	100	0.0033486	1000	0.0035764					10000	0.0034603
Nickel	0	0	100	0.0023674	1000	0.0023586					10000	0.0023948
Potassium	0	0	1000	1.018E-05	10000	1.2092E-05						
Selenium	0	0	100	0.0003898	1000	3.9115E-04					10000	3.6372E-04
Silver	0	0	20	0.00006	500	5.192E-05	2000	5.3715E-05				
Sodium	0	0	1000		50000	3.914E-05						
Strontium	0	0	100	0.001476	1000	0.00148					10000	0.001499
Thallium	0	0	100	0.0007108	1000	6.9069E-04					10000	7.0774E-04
Tin	0	0	50	0.0012824	1000	0.0013214					5000	1.34116E-03
Titanium	0	0	100	0.0002045	1000	2.0462E-04					10000	2.0793E-04
Vanadium	0	0	100	0.0000517	1000	5.115E-05					10000	5.0532E-05
Zinc	0	0	100	0.0071618	1000	0.0074386					10000	0.0071714

INITIAL CALIBRATION DATA (Continued)

SW6010C

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Calibration: 5035001
Instrument: ME-ICP
Matrix: Water
Calibration Dates: 2/3/15 9:31 2/3/15 10:01

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Aluminum												
Antimony												
Arsenic												
Barium												
Beryllium												
Boron												
Cadmium												
Calcium	100000		500000	6.6924E-05								
Chromium												
Cobalt												
Copper												
Iron												
Lead												
Magnesium			100000	2.8845E-06								
Manganese												
Molybdenum												
Nickel												
Potassium	100000	1.278E-05										
Selenium												
Silver												
Sodium	100000	3.8735E-05	500000	3.888E-05								
Strontium												
Thallium												
Tin												
Titanium												
Vanadium												
Zinc												

INITIAL CALIBRATION DATA (Continued)

SW6010C

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Calibration: 5035001
Instrument: ME-ICP
Matrix: Water
Calibration Dates: 2/3/15 9:31 2/3/15 10:01

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Aluminum	1.4898E-05	66.68035	12.82335	186.7706	1		0.998	
Antimony	3.352625E-04	67.5658	2.45093	149.0496	0.9999815		0.998	
Arsenic	2.50895E-04	66.95994	3.902555	181.1812	0.9999826		0.998	
Barium	6.093375E-03	66.89688	0.5129325	90.82418	0.9999828		0.998	
Beryllium	1.673775E-03	66.69362	151.282	199.1288	0.9999886		0.998	
Boron	9.8805E-06	66.82038	4.663975	162.2688	0.9999904		0.998	
Cadmium	0.0135585	66.79273	1.607395	155.1619	0.9999414		0.998	
Calcium	5.047564E-05	66.76938	0.5452525	84.5454	0.9999932		0.998	
Chromium	3.3827E-05	66.68359	7.363582	185.9143	0.9999978		0.998	
Cobalt	3.55975E-03	66.68053	3.270355	182.4568	0.9999942		0.998	
Copper	5.276725E-05	66.76587	1.512673	114.8046	0.9999897		0.998	
Iron	1.374015E-05	66.7447	2.766905	172.9544	0.9999997		0.998	
Lead	7.74275E-04	66.75277	16.34156	195.128	0.9999809		0.998	
Magnesium	2.128175E-06	66.68963	16.26267	197.3092	0.9999787		0.998	
Manganese	1.695275E-04	66.77322	12.35503	190.3357	0.9999929		0.998	
Molybdenum	2.596325E-03	66.76284	27.21343	197.2472	0.9999876		0.998	
Nickel	0.0017802	66.67229	15.14951	195.1638	0.9999978		0.998	
Potassium	8.763E-06	67.83807	2.829542	127.052	0.9999858		0.998	
Selenium	2.861675E-04	66.81247	5.19907	185.9307	0.9999501		0.998	
Silver	4.140875E-05	67.18954	2.63128	155.8458	0.9999065		0.998	
Sodium	2.918875E-05	66.66914	2.638727	120.0394	0.9999984		0.998	
Strontium	1.11375E-03	66.67275	3.557225	171.1657	0.9999986		0.998	
Thallium	5.273075E-04	66.68778	5.525595	185.7269	0.9999943		0.998	
Tin	9.8624E-04	66.71261	3.74975	170.8812	0.9999924		0.998	
Titanium	1.542625E-04	66.67463	4.536613	188.5471	0.9999973		0.998	
Vanadium	3.83455E-05	66.67828	2.257585	145.1037	0.9999989		0.998	
Zinc	5.44295E-03	66.70831	0.818845	123.5328	0.9999863		0.998	

Per current DoD QSM requirements, effective 03/17/2014, Empirical has updated the linear calibration coefficient requirements to reflect a limit of 0.990 for "r2" rather than the previously reported limit of 0.995 for "r". The change in assessment criteria is consistent with regulatory requirements.

INITIAL CALIBRATION DATA

SW7470A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134	
Client:	CB&I	Project:	Radford AAP	
Calibration:	5036002	Instrument:	ME-FIMS	
Matrix:	Water	Calibration Dates:	2/5/15 13:06	2/5/15 13:15

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Mercury	0	0	0.2	0.005585	0.5	0.004582	1	0.004355	2	0.004427	4	0.004472

INITIAL CALIBRATION DATA (Continued)

SW7470A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134	
Client:	CB&I	Project:	Radford AAP	
Calibration:	5036002	Instrument:	ME-FIMS	
Matrix:	Water	Calibration Dates:	2/5/15 13:06	2/5/15 13:15

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Mercury	6	0.0043345	10	0.0042862								

INITIAL CALIBRATION DATA (Continued)

SW7470A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134	
Client:	CB&I	Project:	Radford AAP	
Calibration:	5036002	Instrument:	ME-FIMS	
Matrix:	Water	Calibration Dates:	2/5/15 13:06	2/5/15 13:15

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Mercury	4.005213E-03	41.75262	0	0	0.9997708		0.995	

Per current DoD QSM requirements, effective 03/17/2014, Empirical has updated the linear calibration coefficient requirements to reflect a limit of 0.990 for "r2" rather than the previously reported limit of 0.995 for "r". The change in assessment criteria is consistent with regulatory requirements.

HOLDING TIME SUMMARY

SW6010C

Laboratory: Empirical Laboratories, LLC SDG: 1501134

Client: CB&I Project: Radford AAP

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
ADW01	01/29/15 12:45	01/30/15 08:35	02/02/15 09:05	N/A	180.00	02/03/15 15:26	5.15	180.00	

HOLDING TIME SUMMARY

SW7470A

Laboratory: Empirical Laboratories, LLC SDG: 1501134

Client: CB&I Project: Radford AAP

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
ADW01	01/29/15 12:45	01/30/15 08:35	02/05/15 09:10	6.89	28.00	02/05/15 13:49	0.19	28.00	

Data for SW6010C / SW7470A Supporting Raw Data / Logs

Sample Name: SEQ-CAL1 Acquired: 2/3/2015 9:31:25 Type: Cal
Method: 6500DUOBB(v337) Mode: IR Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba2335	Be3130	Ca3179
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00010**	**-.00032**	**-.00115**	**.00003**	**.01569**	**.00001**	**.00164**
Stddev	.00001	.00016	.00017	.00001	.00018	.00008	.00002
%RSD	8.7777	48.738	14.507	16.007	1.1644	603.15	1.0526
#1	.00011	-.00036	-.00097	.00003	.01587	.00000	.00166
#2	.00009	-.00045	-.00130	.00003	.01569	-.00006	.00163
#3	.00010	-.00015	-.00118	.00004	.01550	.00010	.00163

Elem	Cd2144	Co2286	Cr2677	Cu3247	Fe2611	K_7664	Li6707
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00312**	**.00482**	**-.00002**	**.00017**	**.00008**	**-.00201**	**.00002**
Stddev	.00017	.00059	.00001	.00001	.00001	.00016	.00001
%RSD	5.3483	12.220	27.894	4.0946	9.9425	7.7837	45.129
#1	.00316	.00428	-.00002	.00018	.00009	-.00186	.00002
#2	.00293	.00544	-.00002	.00016	.00007	-.00200	.00003
#3	.00326	.00473	-.00003	.00017	.00008	-.00217	.00001

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00002**	**.00001**	**.00033**	**-.00331**	**.00023**	**-.00123**	**-.00771**
Stddev	.00001	.00001	.00036	.00024	.00014	.00079	.00061
%RSD	64.394	47.624	107.73	7.3054	59.499	64.172	7.9190
#1	.00001	.00002	.00043	-.00344	.00007	-.00034	-.00803
#2	.00003	.00001	-.00006	-.00303	.00031	-.00151	-.00810
#3	.00001	.00001	.00063	-.00347	.00030	-.00185	-.00701

Elem	Se1960	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00151**	**-.00215**	**-.0008**	**.00040**	**-.00091**	**.00009**	**.00668**
Stddev	.00030	.00029	.0001	.00007	.00019	.00001	.00015
%RSD	19.698	13.359	12.65	17.363	20.918	7.1613	2.3056
#1	.00183	-.00211	-.0008	.00037	-.00109	.00009	.00686
#2	.00148	-.00189	-.0006	.00048	-.00071	.00010	.00657
#3	.00123	-.00246	-.0008	.00035	-.00094	.00009	.00662

Sample Name: SEQ-CAL1 Acquired: 2/3/2015 9:31:25 Type: Cal
Method: 6500DUOBB(v337) Mode: IR Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Sc1880	Sc3613	Sc3613-2
Units	Cts/S	Cts/S	Cts/S
Avg	5338.1	1341400.	59271.
Stddev	12.5	28919.	265.
%RSD	.23333	2.1559	.44738
#1	5342.6	1309000.	59203.
#2	5347.7	1364600.	59046.
#3	5324.0	1350600.	59563.

Sample Name: SEQ-CAL2 Acquired: 2/3/2015 9:35:26 Type: Cal
Method: 6500DUOBB(v337) Mode: IR Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba2335	Be3130	Ca3179	Cd2144
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00120**	**.09800**	**.03135**	**.00069**	**.42978**	**.22411**	**.07673**	**1.7997**
Stddev	.00001	.00065	.00008	.00001	.00030	.00060	.00011	.0062
%RSD	.77350	.66446	.24936	1.0307	.06923	.26621	.13840	.34486
#1	.00118	.09800	.03136	.00069	.42953	.22355	.07675	1.7927
#2	.00120	.09734	.03142	.00069	.42969	.22405	.07682	1.8016
#3	.00120	.09865	.03127	.00068	.43011	.22474	.07661	1.8046

Elem	Co2286	Cr2677	Cu3247	Fe2611	K_7664	Li6707	Mn2576	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.47634**	**.00457**	**.00728**	**.09644**	**.01018**	**.00119**	**.02343**	**.33486**
Stddev	.00085	.00003	.00005	.00026	.00032	.00001	.00013	.00132
%RSD	.17855	.59388	.65182	.26567	3.1806	.79414	.54082	.39505
#1	.47574	.00457	.00728	.09637	.01034	.00120	.02347	.33334
#2	.47598	.00460	.00733	.09623	.00981	.00120	.02353	.33558
#3	.47732	.00455	.00723	.09673	.01040	.00118	.02329	.33568

Elem	Ni2316	Pb2203	Sb2068	Se1960	Sn1899	Sr4215	Ti3349	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.23674**	**.10089**	**.03955**	**.03898**	**.06412**	**.1476**	**.02045**	**.07108**
Stddev	.00076	.00037	.00037	.00018	.00047	.0002	.00012	.00015
%RSD	.32181	.36335	.93870	.45675	.73293	.1539	.56327	.21776
#1	.23593	.10096	.03915	.03881	.06378	.1474	.02034	.07103
#2	.23686	.10122	.03988	.03897	.06393	.1476	.02046	.07095
#3	.23744	.10050	.03964	.03916	.06466	.1478	.02057	.07125

Elem	V_2924	Zn2062
Units	Cts/S	Cts/S
Avg	**.00517**	**.71618**
Stddev	.00004	.00043
%RSD	.69455	.06057
#1	.00517	.71587
#2	.00520	.71601
#3	.00513	.71668

Sample Name: SEQ-CAL2 Acquired: 2/3/2015 9:35:26 Type: Cal
Method: 6500DUOBB(v337) Mode: IR Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Sc1880	Sc3613	Sc3613-2
Units	Cts/S	Cts/S	Cts/S
Avg	5257.2	1367500.	61827.
Stddev	6.6	10869.	245.
%RSD	.12540	.79485	.39615
#1	5254.5	1360400.	61787.
#2	5264.7	1362000.	61604.
#3	5252.4	1380000.	62089.

Sample Name: SEQ-CAL3 Acquired: 2/3/2015 9:39:01 Type: Cal
Method: 6500DUOBB(v337) Mode: IR Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba2335	Be3130	Ca3179	Cd2144
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.02596**	**.19904**	**.35124**	**.01278**	**7.8197**	**2.2650**	**3.2612**	**18.796**
Stddev	.00015	.00049	.00189	.00006	.0270	.0036	.0056	.074
%RSD	.59224	.24734	.53686	.45780	.34490	.15985	.17132	.39617
#1	.02611	.19929	.35036	.01282	7.8071	2.2667	3.2554	18.736
#2	.02597	.19936	.34996	.01281	7.8013	2.2674	3.2615	18.773
#3	.02580	.19847	.35340	.01272	7.8506	2.2608	3.2666	18.880

Elem	Co2286	Cr2677	Cu3247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4.6804**	**.04515**	**.06811**	**.18210**	**.12092**	**.01239**	**.13967**	**.22508**
Stddev	.0175	.00006	.00025	.00055	.00037	.00004	.00024	.00032
%RSD	.37432	.13753	.37013	.30240	.30402	.34587	.16847	.14190
#1	4.6656	.04507	.06829	.18224	.12119	.01242	.13945	.22499
#2	4.6759	.04518	.06822	.18256	.12107	.01234	.13992	.22544
#3	4.6998	.04518	.06782	.18149	.12050	.01242	.13965	.22482

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Sn1899	Sr4215
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3.5764**	**1.9570**	**2.3586**	**1.0192**	**.47944**	**.39115**	**1.3214**	**1.480**
Stddev	.0143	.0065	.0101	.0043	.00280	.00078	.0066	.001
%RSD	.40020	.33011	.42732	.41683	.58365	.20013	.49657	.0910
#1	3.5672	1.9635	2.3509	1.0156	.47783	.39052	1.3167	1.480
#2	3.5692	1.9570	2.3548	1.0180	.47781	.39090	1.3187	1.479
#3	3.5929	1.9506	2.3700	1.0239	.48267	.39202	1.3289	1.481

Elem	Ti3349	Tl1908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.20462**	**.69069**	**.05115**	**7.4386**
Stddev	.00030	.00380	.00017	.0266
%RSD	.14843	.55081	.33846	.35742
#1	.20497	.68801	.05131	7.4187
#2	.20445	.68901	.05116	7.4282
#3	.20444	.69504	.05097	7.4688

Sample Name: SEQ-CAL3 Acquired: 2/3/2015 9:39:01 Type: Cal
Method: 6500DUOBB(v337) Mode: IR Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Sc1880	Sc3613	Sc3613-2
Units	Cts/S	Cts/S	Cts/S
Avg	4716.1	1305500.	62073.
Stddev	11.9	2712.	237.
%RSD	.25180	.20776	.38111
#1	4723.7	1303100.	61916.
#2	4722.1	1308400.	61958.
#3	4702.4	1304900.	62345.

Sample Name: SEQ-CAL4 Acquired: 2/3/2015 9:42:51 Type: Cal
Method: 6500DUOBB(v337) Mode: IR Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Ba2335	Mn2576
Units	Cts/S	Cts/S	Cts/S
Avg	**.10743**	**39.791**	**2.1873**
Stddev	.00041	.188	.0244
%RSD	.38168	.47320	1.1134
#1	.10771	39.579	2.1783
#2	.10762	39.859	2.2148
#3	.10696	39.936	2.1687

Int. Std.	Sc1880	Sc3613
Units	Cts/S	Cts/S
Avg	5245.4	1352500.
Stddev	19.8	8485.
%RSD	.37669	.62733
#1	5256.1	1353700.
#2	5257.5	1343500.
#3	5222.6	1360400.

Sample Name: SEQ-CAL5 Acquired: 2/3/2015 9:47:08 Type: Cal
Method: 6500DUOBB(v337) Mode: IR Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Al3961	Fe2611	Mg2790
Units	Cts/S	Cts/S	Cts/S
Avg	**10.044**	**8.9204**	**1.4174**
Stddev	.165	.0497	.0016
%RSD	1.6436	.55705	.11285
#1	10.132	8.9710	1.4182
#2	10.145	8.8716	1.4185
#3	9.8532	8.9187	1.4156

Int. Std.	Sc3613-2
Units	Cts/S
Avg	59591.
Stddev	300.
%RSD	.50422
#1	59417.
#2	59418.
#3	59938.

Sample Name: SEQ-CAL6 Acquired: 2/3/2015 9:52:03 Type: Cal
Method: 6500DUOBB(v337) Mode: IR Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	B_2496	Be3130	Cd2144	Co2286	Cr2677	Cu3247	Li6707
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3.3884**	**.06471**	**21.890**	**174.41**	**47.952**	**.44458**	**.70159**	**.11995**
Stddev	.0107	.00075	.340	.59	.148	.00369	.00655	.00126
%RSD	.31700	1.1604	1.5518	.34025	.30855	.82892	.93414	1.0520
#1	3.3872	.06554	21.628	173.76	47.944	.44882	.70712	.12084
#2	3.3782	.06408	21.769	174.92	47.808	.44209	.69435	.11850
#3	3.3996	.06450	22.274	174.54	48.104	.44285	.70329	.12050

Elem	Mo2020	Ni2316	Pb2203	Sb2068	Se1960	Sn1899	Sr4215	Ti3349
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**34.603**	**23.948**	**10.690**	**4.6611**	**3.6372**	**6.7058**	**14.99**	**2.0793**
Stddev	.114	.084	.044	.0169	.0160	.0275	.20	.0015
%RSD	.32845	.34990	.41407	.36237	.44140	.41050	1.334	.07175
#1	34.564	23.928	10.674	4.6686	3.6408	6.6920	14.79	2.0801
#2	34.514	23.876	10.656	4.6418	3.6197	6.6879	15.19	2.0803
#3	34.731	24.040	10.740	4.6730	3.6512	6.7375	15.01	2.0776

Elem	Tl1908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S
Avg	**7.0774**	**.50532**	**71.714**
Stddev	.0294	.00422	.396
%RSD	.41581	.83603	.55179
#1	7.0778	.50759	71.293
#2	7.0478	.50045	71.770
#3	7.1067	.50793	72.078

Int. Std.	Sc1880	Sc3613	Sc3613-2
Units	Cts/S	Cts/S	Cts/S
Avg	**4834.0**	**1282000.**	**59908.**
Stddev	22.8	11753.	139.
%RSD	.47222	.91679	.23235
#1	4849.3	1271000.	59835.
#2	4844.9	1294400.	59820.
#3	4807.7	1280500.	60069.

Sample Name: SEQ-CAL7 Acquired: 2/3/2015 9:57:08 Type: Cal
Method: 6500DUOBB(v337) Mode: IR Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	K_7664	Na5895
Units	Cts/S	Cts/S
Avg	**1.2780**	**3.8735**
Stddev	.0006	.0439
%RSD	.04985	1.1344
#1	1.2786	3.8334
#2	1.2773	3.8665
#3	1.2780	3.9205

Int. Std.	Sc3613-2
Units	Cts/S
Avg	59875.
Stddev	108.
%RSD	.17997
#1	59908.
#2	59754.
#3	59962.

Sample Name: SEQ-CAL8 Acquired: 2/3/2015 10:01:16 Type: Cal
Method: 6500DUOBB(v337) Mode: IR Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ca3179	Mg2790	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**33.462**	**.28845**	**19.440**
Stddev	.274	.00108	.347
%RSD	.81869	.37538	1.7850
#1	33.741	.28929	19.057
#2	33.451	.28723	19.733
#3	33.194	.28884	19.529

Int. Std.	Sc3613-2
Units	Cts/S
Avg	57878.
Stddev	122.
%RSD	.21035
#1	57877.
#2	57757.
#3	58000.

Sample Name: SEQ-ICV Acquired: 2/3/2015 10:40:38 Type: QC
Method: 6500DUOBB(v339) Mode: CONC Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment: 15A0706

Elem	Ag3280	Al3961	As1890	B_2496	Ba2335	Be3130	Ca3179
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppm
Avg	**505.10**	**10008.**	**1033.7**	**1025.2**	**980.55**	**1011.5**	**50.013**
Stddev	4.44	13.	2.3	7.4	2.07	1.1	.208
%RSD	.87932	.12866	.22379	.71899	.21146	.10553	.41572
#1	505.75	10018.	1035.0	1025.1	980.81	1012.6	50.187
#2	509.19	10013.	1031.1	1032.7	978.36	1010.5	50.068
#3	500.37	9993.6	1035.1	1017.9	982.49	1011.4	49.783
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2144	Co2286	Cr2677	Cu3247	Fe2611	K_7664	Li6707
Units	ppb	ppb	ppb	ppb	ppb	ppm	ppb
Avg	F **1054.0**	F **943.72**	**996.21**	**974.33**	**10373.**	**9.9357**	**1023.9**
Stddev	1.1	1.49	4.60	6.88	9.	.0338	7.0
%RSD	.10161	.15791	.46158	.70594	.08863	.34068	.68544
#1	1054.0	943.84	993.98	973.59	10379.	9.9510	1028.5
#2	1052.9	942.17	1001.5	981.55	10363.	9.9592	1027.4
#3	1055.1	945.15	993.15	967.85	10379.	9.8969	1015.9
Check ?	Chk Fail	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	1000.0	1000.0					
Range	±50.000	±-50.000					

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppb	ppb	ppm	ppb	ppb	ppb
Avg	**49.904**	**1026.2**	**1013.9**	**50.192**	**958.43**	F **945.21**	**976.84**
Stddev	.093	10.7	1.5	.052	.81	1.09	.17
%RSD	.18686	1.0445	.15286	.10428	.08421	.11507	.01786
#1	49.990	1036.3	1013.9	50.235	959.27	945.91	976.77
#2	49.917	1014.9	1012.3	50.134	957.66	943.96	976.72
#3	49.805	1027.4	1015.4	50.206	958.36	945.77	977.04
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
Value						1000.0	
Range						±-50.000	

Sample Name: SEQ-ICV Acquired: 2/3/2015 10:40:38 Type: QC
Method: 6500DUOBB(v339) Mode: CONC Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment: 15A0706

Elem	Se1960	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**1040.0**	**981.36**	**985.6**	**983.76**	**978.26**	**1015.4**	**1031.4**
Stddev	2.9	.92	3.0	1.54	1.48	5.5	1.0
%RSD	.28091	.09343	.3080	.15693	.15177	.53761	.10179
#1	1042.6	982.10	988.4	985.53	979.74	1015.0	1030.9
#2	1036.8	980.34	986.1	983.08	976.77	1021.0	1030.7
#3	1040.7	981.64	982.4	982.67	978.27	1010.1	1032.6
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Sc1880	Sc3613	Sc3613-2
Units	Cts/S	Cts/S	Cts/S
Avg	4697.9	1279800.	60415.
Stddev	1.0	6277.	82.
%RSD	.02119	.49050	.13581
#1	4698.7	1275700.	60323.
#2	4698.2	1276700.	60481.
#3	4696.8	1287000.	60441.

Sample Name: SEQ-ICB Acquired: 2/3/2015 10:47:58 Type: QC
Method: 6500DUOBB(v339) Mode: CONC Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba2335	Be3130	Ca3179	Cd2144
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppb
Avg	**-.10657**	**-5.5577**	**-.80994**	**-.14475**	**.05133**	**-.02021**	**-.00044**	**-.01314**
Stddev	.34678	3.6443	.62195	.04975	.04990	.04344	.00073	.02536
%RSD	325.40	65.573	76.789	34.372	97.213	214.95	166.76	193.06
#1	.08970	-8.3854	-1.0715	-.19843	.09743	-.04740	.00035	.00703
#2	-.50698	-1.4449	-1.2584	-.10019	.05823	.02989	-.00056	-.04161
#3	.09756	-6.8427	-.09993	-.13564	-.00166	-.04312	-.00109	-.00483
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu3247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppb	ppb	ppb	ppb	ppm	ppb	ppm	ppb
Avg	**.08685**	**.01110**	**.67236**	**12.200**	**-.00381**	**-.27302**	**.02219**	**.02421**
Stddev	.06819	.05521	.19391	1.948	.01544	.31266	.00298	.02386
%RSD	78.510	497.27	28.840	15.964	405.79	114.52	13.416	98.555
#1	.01616	-.03089	.79918	12.497	-.01307	-.11286	.02428	.03648
#2	.09218	.07364	.76874	10.121	-.01237	-.63331	.02350	-.00329
#3	.15222	-.00945	.44914	13.982	.01402	-.07288	.01878	.03945
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Sn1899	Sr4215
Units	ppb	ppm	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**.04828**	**.00703**	**.13615**	**.02386**	**1.7748**	**.30171**	**.21773**	**-.2130**
Stddev	.03330	.00474	.05669	.13160	.2161	.50164	.17764	.0350
%RSD	68.965	67.475	41.639	551.47	12.177	166.27	81.588	16.44
#1	.02796	.00280	.07912	-.12730	1.9488	-.10483	.30019	-.1785
#2	.03018	.00612	.19250	.11295	1.5328	.14764	.33914	-.2119
#3	.08671	.01216	.13682	.08594	1.8427	.86231	.01384	-.2485
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Sample Name: SEQ-ICB Acquired: 2/3/2015 10:47:58 Type: QC
Method: 6500DUOBB(v339) Mode: CONC Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	TI1908	V_2924	Zn2062
Units	ppb	ppb	ppb	ppb
Avg	**-.21304**	**-.63304**	**.10549**	**.00197**
Stddev	.40694	.04277	.02955	.01715
%RSD	191.02	6.7567	28.009	868.15
#1	.00702	-.65132	.13811	-.00175
#2	.03649	-.58417	.09784	-.01300
#3	-.68263	-.66364	.08052	.02068
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit				
Low Limit				

Int. Std.	Sc1880	Sc3613	Sc3613-2
Units	Cts/S	Cts/S	Cts/S
Avg	**5278.1**	**1320700.**	**59416.**
Stddev	9.3	10134.	271.
%RSD	.17607	.76732	.45638
#1	5268.0	1309600.	59150.
#2	5279.8	1323000.	59406.
#3	5286.4	1329500.	59692.

Sample Name: SEQ-CRL Acquired: 2/3/2015 10:54:08 Type: QC
Method: 6500DUOBB(v339) Mode: CONC Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment: RLSTDA

Elem	Ag3280	Al3961	As1890	B_2496	Ba2335	Be3130	Ca3179
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppm
Avg	**1.7755**	**101.66**	**5.3928**	**15.674**	**9.7592**	**2.0213**	**2.0271**
Stddev	.1168	6.24	.9511	.635	.0513	.0339	.0036
%RSD	6.5786	6.1352	17.636	4.0512	.52579	1.6779	.17952
#1	1.6445	102.23	5.2152	15.064	9.7099	2.0574	2.0268
#2	1.8689	107.58	6.4202	15.628	9.7553	1.9901	2.0236
#3	1.8131	95.151	4.5431	16.331	9.8123	2.0163	2.0308
Check ?	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2144	Co2286	Cr2677	Cu3247	Fe2611	K_7664	Li6707
Units	ppb	ppb	ppb	ppb	ppb	ppm	ppb
Avg	**2.0414**	**9.5820**	**4.1785**	**8.6397**	**67.386**	**2.9297**	F **4.7618**
Stddev	.0354	.1437	.1512	.0446	3.852	.0059	1.2615
%RSD	1.7322	1.5001	3.6190	.51598	5.7167	.20244	26.491
#1	2.0787	9.6836	4.1336	8.6832	67.121	2.9240	4.4536
#2	2.0083	9.4175	4.0548	8.5941	71.363	2.9291	3.6829
#3	2.0373	9.6448	4.3470	8.6417	63.673	2.9359	6.1487
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
Value							6.0000
Range							±-1.2000

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppb	ppb	ppm	ppb	ppb	ppb
Avg	**3.1285**	**6.5085**	**9.6369**	**3.0768**	**5.9846**	**2.7072**	**9.0734**
Stddev	.0139	.0278	.1443	.0046	.0757	.2344	.5760
%RSD	.44367	.42724	1.4972	.15070	1.2650	8.6563	6.3482
#1	3.1180	6.5092	9.7843	3.0751	6.0601	2.5042	8.7320
#2	3.1442	6.4803	9.6303	3.0820	5.9849	2.6538	8.7498
#3	3.1234	6.5359	9.4960	3.0732	5.9087	2.9637	9.7384
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Sample Name: SEQ-CRL Acquired: 2/3/2015 10:54:08 Type: QC
Method: 6500DUOBB(v339) Mode: CONC Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment: RLSTDA

Elem	Se1960	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**6.0207**	**18.949**	**5.605**	**9.8771**	**3.8372**	**9.6837**	**9.9290**
Stddev	.6788	.082	.016	.1682	.0247	.3402	.0263
%RSD	11.274	.43294	.2884	1.7029	.64380	3.5130	.26528
#1	5.3434	19.033	5.588	9.8705	3.8465	9.3159	9.9369
#2	6.7010	18.946	5.607	10.049	3.8560	9.7482	9.8996
#3	6.0176	18.869	5.620	9.7123	3.8093	9.9871	9.9504
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Sc1880	Sc3613	Sc3613-2
Units	Cts/S	Cts/S	Cts/S
Avg	**5186.5**	**1347600.**	**61478.**
Stddev	12.3	7584.	85.
%RSD	.23749	.56276	.13867
#1	5184.7	1353100.	61571.
#2	5199.7	1350900.	61405.
#3	5175.2	1339000.	61457.

Sample Name: SEQ-CRL Acquired: 2/3/2015 10:59:55 Type: QC
Method: 6500DUOBB(v339) Mode: CONC Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment: RLSTD1

Elem	Ag3280	Al3961	As1890	B_2496	Ba2335	Be3130	Ca3179	Cd2144
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppb
Avg	**-.20889**	**-14.082**	**4.4518**	**28.117**	**-.10848**	**-.00565**	**.00051**	**-.00590**
Stddev	.12028	12.806	.4236	.395	.03793	.04707	.00056	.00952
%RSD	57.581	90.936	9.5157	1.4035	34.963	833.21	108.94	161.37
#1	-.22258	-6.2751	4.4100	28.487	-.10992	-.05919	.00068	-.01686
#2	-.32175	-28.861	4.0506	28.163	-.14567	.01302	.00098	.00035
#3	-.08235	-7.1102	4.8947	27.702	-.06986	.02922	-.00011	-.00119
Check ?	None	None	Chk Pass	Chk Pass	None	None	None	None
Value								
Range								

Elem	Co2286	Cr2677	Cu3247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppb	ppb	ppb	ppb	ppm	ppb	ppm	ppb
Avg	**.01095**	**.10116**	**.79968**	**3.0407**	**-.00844**	**-1.4969**	**.01078**	**.05657**
Stddev	.14743	.10940	.16930	.6189	.01269	.6571	.00372	.01158
%RSD	1346.8	108.15	21.171	20.353	150.35	43.898	34.537	20.464
#1	-.01974	.08097	.71715	2.3266	.00453	-.74023	.01469	.05978
#2	.17131	.21924	.99442	3.4217	-.00903	-1.8264	.00727	.06621
#3	-.11873	.00326	.68747	3.3738	-.02082	-1.9240	.01037	.04373
Check ?	None	None	None	None	None	None	None	None
Value								
Range								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Sn1899	Sr4215
Units	ppb	ppm	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**.05226**	**.02071**	**.04539**	**3.2216**	**1.2320**	**5.6038**	**-.06872**	**-.1556**
Stddev	.01120	.00290	.06488	.1524	1.2281	.7410	.10550	.0800
%RSD	21.429	14.020	142.95	4.7296	99.683	13.224	153.52	51.42
#1	.04897	.01797	.08195	3.1274	-.18584	5.8819	-.05149	-.2406
#2	.04307	.02041	-.02952	3.1400	1.9638	4.7640	.02711	-.0817
#3	.06473	.02375	.08373	3.3974	1.9180	6.1656	-.18178	-.1446
Check ?	None	None	None	Chk Pass	None	Chk Pass	None	None
Value								
Range								

Sample Name: SEQ-CRL Acquired: 2/3/2015 10:59:55 Type: QC
Method: 6500DUOBB(v339) Mode: CONC Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment: RLSTD1

Elem	Ti3349	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb	ppb
Avg	**-.33573**	**-.33714**	**-.15415**	**.02804**
Stddev	.15682	.08948	.04960	.05926
%RSD	46.709	26.541	32.174	211.37
#1	-.18561	-.35257	-.19076	.03517
#2	-.32310	-.41790	-.09771	.08341
#3	-.49847	-.24095	-.17399	-.03447
Check ?	None	None	None	None
Value				
Range				

Int. Std.	Sc1880	Sc3613	Sc3613-2
Units	Cts/S	Cts/S	Cts/S
Avg	5236.1	1352400.	61176.
Stddev	20.0	6573.	144.
%RSD	.38228	.48601	.23484
#1	5249.6	1346100.	61010.
#2	5245.6	1359200.	61253.
#3	5213.1	1352000.	61264.

Sample Name: SEQ-IFA Acquired: 2/3/2015 11:24:58 Type: Unk
Method: 6500DUOBB(v341) Mode: CONC Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba2335	Be3130	Ca3179
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppm
Avg	**-.27155**	**517130.**	**-2.4716**	**16.577**	**1.7379**	**.07413**	**477.14**
Stddev	.16313	5904.	1.4419	.189	.0772	.02488	2.47
%RSD	60.073	1.1416	58.336	1.1404	4.4430	33.566	.51672
#1	-.08333	510640.	-2.9741	16.423	1.6726	.06787	475.84
#2	-.37209	522180.	-3.5950	16.788	1.8231	.10155	475.60
#3	-.35922	518570.	-.84577	16.519	1.7179	.05298	479.99

Elem	Cd2144	Co2286	Cr2677	Cu3247	Fe2611	K_7664	Li6707
Units	ppb	ppb	ppb	ppb	ppb	ppm	ppb
Avg	**-.70170**	**-1.4334**	**.24316**	**.72999**	**206530.**	**-.00449**	**1.6510**
Stddev	.03627	.0815	.15522	.07695	284.	.01122	1.2731
%RSD	5.1694	5.6840	63.836	10.541	.13758	249.92	77.110
#1	-.66565	-1.3393	.23176	.72765	206260.	-.01613	2.4890
#2	-.70124	-1.4813	.40377	.80808	206510.	.00626	2.2779
#3	-.73820	-1.4795	.09395	.65424	206830.	-.00360	.18603

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppb	ppb	ppm	ppb	ppb	ppb
Avg	**481.30**	**-3.1502**	**.70376**	**.10776**	**-4.2986**	**-1.1828**	**-.55992**
Stddev	1.20	.0215	.15071	.00827	.0861	1.9270	.67520
%RSD	.24925	.68204	21.416	7.6759	2.0024	162.93	120.59
#1	481.91	-3.1502	.65681	.09910	-4.3686	-.57228	-1.1795
#2	482.07	-3.1716	.87236	.11557	-4.2025	.36509	-.66007
#3	479.92	-3.1286	.58211	.10862	-4.3246	-3.3411	.15976

Elem	Se1960	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**-.17189**	**-6.4999**	**2.758**	**-10.348**	**-.82569**	**.19725**	**-7.0360**
Stddev	2.1423	.0214	.042	.183	1.3716	.20009	.0245
%RSD	1246.3	.32914	1.528	1.7717	166.11	101.44	.34843
#1	1.7063	-6.4757	2.767	-10.147	.65316	.12279	-7.0516
#2	-2.5052	-6.5165	2.795	-10.507	-2.0560	.42389	-7.0487
#3	.28329	-6.5073	2.712	-10.389	-1.0742	.04505	-7.0077

Sample Name: SEQ-IFA Acquired: 2/3/2015 11:24:58 Type: Unk
Method: 6500DUOBB(v341) Mode: CONC Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Sc1880	Sc3613	Sc3613-2
Units	Cts/S	Cts/S	Cts/S
Avg	3850.9	1123600.	58121.
Stddev	13.6	5840.	159.
%RSD	.35252	.51980	.27359
#1	3858.5	1122100.	58072.
#2	3859.0	1130000.	57992.
#3	3835.2	1118600.	58299.

Sample Name: SEQ-IFB Acquired: 2/3/2015 11:29:20 Type: QC
Method: 6500DUOBB(v341) Mode: CONC Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba2335	Be3130	Ca3179
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppm
Avg	**208.00**	**517270.**	**106.52**	**62.330**	**512.54**	**494.76**	**475.58**
Stddev	1.27	2958.	1.92	.877	.24	1.21	1.13
%RSD	.61172	.57190	1.8037	1.4077	.04605	.24542	.23802
#1	209.44	514710.	108.07	63.316	512.79	493.54	475.35
#2	207.55	516580.	107.11	62.039	512.49	495.96	474.57
#3	207.02	520510.	104.37	61.635	512.33	494.78	476.80
Check ?	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2144	Co2286	Cr2677	Cu3247	Fe2611	K_7664	Li6707
Units	ppb	ppb	ppb	ppb	ppb	ppm	ppb
Avg	**1067.7**	**475.04**	**476.12**	**484.75**	**207680.**	**-.00099**	**1.8514**
Stddev	1.5	.34	1.48	2.00	437.	.00755	.8080
%RSD	.13710	.07121	.31011	.41257	.21052	760.02	43.643
#1	1069.3	475.37	477.75	486.91	207300.	.00416	2.7285
#2	1066.9	475.06	474.88	482.96	208160.	.00252	1.6883
#3	1066.7	474.70	475.73	484.39	207580.	-.00966	1.1373
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068
Units	ppm	ppb	ppb	ppm	ppb	ppb	ppb
Avg	**482.39**	**504.71**	**1.0054**	**.15837**	**936.17**	**44.325**	**614.93**
Stddev	1.75	1.97	.0157	.00314	1.18	.896	1.19
%RSD	.36292	.39130	1.5656	1.9825	.12581	2.0214	.19289
#1	481.74	506.77	.98734	.15661	937.50	43.317	615.53
#2	481.06	504.54	1.0123	.15650	935.26	44.629	615.68
#3	484.37	502.83	1.0164	.16199	935.75	45.030	613.56
Check ?	Chk Pass	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Sample Name: SEQ-IFB Acquired: 2/3/2015 11:29:20 Type: QC
Method: 6500DUOBB(v341) Mode: CONC Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Se1960	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**52.074**	**-6.4314**	**1081.**	**-10.012**	**90.868**	**484.37**	**1020.5**
Stddev	1.493	.2577	1.	.296	.351	2.55	.7
%RSD	2.8672	4.0071	.0980	2.9536	.38668	.52575	.07338
#1	52.917	-6.1425	1081.	-10.010	91.123	487.15	1021.1
#2	52.954	-6.6376	1080.	-10.308	90.467	483.81	1019.6
#3	50.350	-6.5141	1082.	-9.7169	91.014	482.15	1020.6
Check ?	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Sc1880	Sc3613	Sc3613-2
Units	Cts/S	Cts/S	Cts/S
Avg	**3840.0**	**1134300.**	**57904.**
Stddev	3.8	5430.	196.
%RSD	.09892	.47869	.33886
#1	3840.6	1128800.	58008.
#2	3843.5	1134500.	58026.
#3	3835.9	1139700.	57677.

Sample Name: SEQ-CCV Acquired: 2/3/2015 11:44:55 Type: QC
Method: 6500DUOBB(v341) Mode: CONC Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment: 15A0707

Elem	Ag3280	Al3961	As1890	B_2496	Ba2335	Be3130	Ca3179	Cd2144
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppb
Avg	**504.81**	**9967.8**	**1034.3**	**999.44**	**957.57**	**1018.6**	**50.305**	**1060.1**
Stddev	2.81	16.0	3.9	5.79	6.28	.7	.274	4.4
%RSD	.55636	.16057	.37686	.57940	.65608	.06431	.54449	.41302
#1	507.86	9983.9	1033.6	1006.1	952.79	1018.1	50.621	1057.4
#2	502.32	9967.7	1030.7	995.85	955.24	1019.3	50.151	1057.8
#3	504.25	9951.8	1038.4	996.35	964.69	1018.3	50.142	1065.1
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Co2286	Cr2677	Cu3247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppb	ppb	ppb	ppb	ppm	ppb	ppm	ppb
Avg	**952.49**	**1008.2**	**977.44**	**10426.**	**10.007**	**1023.7**	**49.848**	**1052.7**
Stddev	4.58	6.3	5.45	13.	.015	2.1	.191	1.1
%RSD	.48079	.62336	.55765	.12018	.15350	.20706	.38267	.10535
#1	949.85	1015.2	983.70	10429.	10.025	1021.4	50.065	1053.9
#2	949.84	1006.2	973.69	10412.	10.001	1024.3	49.706	1052.3
#3	957.78	1003.1	974.94	10436.	9.9958	1025.5	49.774	1051.8
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Sn1899	Sr4215
Units	ppb	ppm	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**1006.1**	**49.993**	**973.80**	**953.80**	**976.79**	**1037.4**	**974.31**	**987.9**
Stddev	5.1	.025	4.09	4.65	6.64	7.2	6.30	3.5
%RSD	.50517	.04940	.42029	.48764	.67929	.69858	.64672	.3515
#1	1003.0	49.974	971.00	951.04	972.35	1034.0	970.46	991.6
#2	1003.3	50.021	971.90	951.19	973.61	1032.5	970.89	987.5
#3	1011.9	49.985	978.50	959.17	984.42	1045.7	981.58	984.7
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Sample Name: SEQ-CCV Acquired: 2/3/2015 11:44:55 Type: QC
Method: 6500DUOBB(v341) Mode: CONC Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment: 15A0707

Elem	Ti3349	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb	ppb
Avg	**994.19**	**972.30**	**996.31**	**1024.9**
Stddev	1.40	4.54	4.82	4.8
%RSD	.14118	.46685	.48364	.46522
#1	995.77	969.10	1001.8	1022.2
#2	993.69	970.30	992.79	1022.1
#3	993.10	977.49	994.33	1030.4
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value				
Range				

Int. Std.	Sc1880	Sc3613	Sc3613-2
Units	Cts/S	Cts/S	Cts/S
Avg	4710.1	1271900.	60514.
Stddev	13.4	4739.	484.
%RSD	.28399	.37258	.79971
#1	4715.9	1267200.	60002.
#2	4719.6	1276600.	60964.
#3	4694.8	1271900.	60575.

Sample Name: SEQ-CCB Acquired: 2/3/2015 11:52:17 Type: QC
Method: 6500DUOBB(v341) Mode: CONC Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba2335	Be3130	Ca3179	Cd2144
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppb
Avg	**-.05829**	**-12.907**	**-.62317**	**-.31252**	**.05769**	**.04044**	**-.00157**	**-.00364**
Stddev	.05547	15.124	.27750	.15579	.00821	.01720	.00042	.00556
%RSD	95.162	117.17	44.531	49.849	14.234	42.524	26.449	152.80
#1	-.06786	-26.572	-.44448	-.15011	.05751	.06023	-.00197	-.00672
#2	-.10835	3.3430	-.94287	-.32674	.04957	.02917	-.00160	.00278
#3	.00134	-15.494	-.48217	-.46071	.06599	.03191	-.00114	-.00697
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu3247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppb	ppb	ppb	ppb	ppm	ppb	ppm	ppb
Avg	**-.02898**	**.23215**	**.89035**	**19.205**	**.00259**	**-.78422**	**.01111**	**.05151**
Stddev	.01070	.14121	.11679	2.406	.01164	1.4504	.00553	.01986
%RSD	36.932	60.830	13.117	12.526	449.89	184.94	49.794	38.564
#1	-.03967	.37382	1.0125	17.539	-.00249	.46966	.00474	.02871
#2	-.02902	.09139	.87888	18.113	.01591	-.44973	.01475	.06070
#3	-.01826	.23122	.77972	21.963	-.00565	-2.3726	.01383	.06511
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Sn1899	Sr4215
Units	ppb	ppm	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**.06252**	**.01194**	**.12171**	**.22493**	**1.0744**	**-.58884**	**.09517**	**-.1456**
Stddev	.04429	.00810	.16791	.03081	.5538	.95228	.08673	.0418
%RSD	70.845	67.826	137.96	13.696	51.542	161.72	91.130	28.68
#1	.10494	.01452	.21960	.19405	1.6768	.37348	.02411	-.1917
#2	.06605	.01844	.21770	.25567	.95882	-.60924	.19182	-.1348
#3	.01657	.00287	-.07218	.22507	.58755	-1.5308	.06959	-.1103
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Sample Name: SEQ-CCB Acquired: 2/3/2015 11:52:17 Type: QC
Method: 6500DUOBB(v341) Mode: CONC Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb	ppb
Avg	**.12873**	**-.81034**	**.03419**	**.01555**
Stddev	.05039	.69764	.05676	.03711
%RSD	39.147	86.092	166.02	238.69
#1	.14844	-1.2271	.09491	.00524
#2	.07146	-.00494	.02519	.05673
#3	.16629	-1.1989	-.01754	-.01532
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit				
Low Limit				

Int. Std.	Sc1880	Sc3613	Sc3613-2
Units	Cts/S	Cts/S	Cts/S
Avg	5226.1	1341100.	60401.
Stddev	36.9	14682.	589.
%RSD	.70584	1.0948	.97433
#1	5242.1	1328500.	60536.
#2	5252.4	1357200.	60910.
#3	5184.0	1337400.	59757.

Sample Name: SEQ-CCV Acquired: 2/3/2015 15:05:29 Type: QC
Method: 6500DUOBB(v341) Mode: CONC Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment: 15A0707

Elem	Ag3280	Al3961	As1890	B_2496	Ba2335	Be3130	Ca3179	Cd2144
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppb
Avg	**498.36**	**9923.3**	**1020.5**	**1001.3**	**966.21**	**1017.3**	**49.556**	**1056.4**
Stddev	2.67	22.0	2.4	4.1	2.49	2.0	.089	2.6
%RSD	.53584	.22211	.23669	.40813	.25820	.19760	.17946	.24546
#1	496.02	9947.1	1020.7	996.70	963.47	1017.5	49.459	1054.3
#2	501.27	9903.6	1018.0	1002.9	966.81	1015.2	49.634	1055.6
#3	497.80	9919.2	1022.8	1004.4	968.35	1019.2	49.575	1059.3
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Co2286	Cr2677	Cu3247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppb	ppb	ppb	ppb	ppm	ppb	ppm	ppb
Avg	**950.48**	**1018.0**	**971.12**	**10324.**	**9.8801**	**1007.1**	**49.836**	**1051.7**
Stddev	2.25	4.3	3.20	22.	.0170	2.4	.100	3.6
%RSD	.23622	.42269	.32999	.21102	.17213	.23357	.20062	.33981
#1	948.26	1016.5	967.51	10334.	9.8904	1006.3	49.757	1049.6
#2	950.44	1014.6	972.22	10299.	9.8895	1005.3	49.949	1055.8
#3	952.75	1022.8	973.63	10339.	9.8605	1009.8	49.802	1049.7
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Sn1899	Sr4215
Units	ppb	ppm	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**997.94**	**50.257**	**969.96**	**947.04**	**982.96**	**1028.2**	**975.34**	**980.2**
Stddev	3.08	.064	2.66	3.06	1.81	2.8	2.12	.8
%RSD	.30838	.12801	.27420	.32324	.18397	.27363	.21691	.0801
#1	996.38	50.294	967.13	944.64	981.11	1026.0	974.31	979.3
#2	995.96	50.183	970.35	945.99	983.06	1027.2	973.94	980.7
#3	1001.5	50.295	972.41	950.49	984.73	1031.4	977.77	980.7
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Sample Name: SEQ-CCV Acquired: 2/3/2015 15:05:29 Type: QC
Method: 6500DUOBB(v341) Mode: CONC Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment: 15A0707

Elem	Ti3349	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb	ppb
Avg	**985.96**	**961.21**	**1006.6**	**1026.2**
Stddev	1.55	3.07	1.8	1.4
%RSD	.15693	.31916	.18348	.14003
#1	986.13	958.57	1004.9	1025.4
#2	984.33	960.48	1006.4	1025.4
#3	987.41	964.58	1008.6	1027.9
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value				
Range				

Int. Std.	Sc1880	Sc3613	Sc3613-2
Units	Cts/S	Cts/S	Cts/S
Avg	4690.0	1260700.	**59653.**
Stddev	8.9	3266.	205.
%RSD	.19042	.25908	.34422
#1	4695.8	1264000.	59764.
#2	4679.7	1257400.	59416.
#3	4694.4	1260800.	59778.

Sample Name: SEQ-CCB Acquired: 2/3/2015 15:12:49 Type: QC
Method: 6500DUOBB(v341) Mode: CONC Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba2335	Be3130	Ca3179	Cd2144
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppb
Avg	**-.02887**	**-9.7210**	**-.74815**	**-.41539**	**.15807**	**.01735**	**.00073**	**.16738**
Stddev	.08483	7.6399	.24090	.46754	.01968	.04442	.00054	.03064
%RSD	293.87	78.592	32.200	112.55	12.451	256.04	74.950	18.308
#1	-.10447	-.92300	-.56298	-.92726	.17376	.05400	.00015	.13755
#2	.06286	-14.681	-1.0205	-.30804	.16445	.03011	.00080	.19878
#3	-.04499	-13.559	-.66096	-.01086	.13599	-.03206	.00123	.16580
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu3247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppb	ppb	ppb	ppb	ppm	ppb	ppm	ppb
Avg	**.18649**	**.11830**	**.59232**	**-.72334**	**-.00194**	**-1.8860**	**.00416**	**.05741**
Stddev	.01999	.15933	.08585	.57969	.02493	.8697	.00669	.03937
%RSD	10.721	134.69	14.495	80.140	1284.8	46.112	160.76	68.575
#1	.18359	.29740	.59566	-.36698	-.02809	-2.5363	.00405	.02102
#2	.20778	.06515	.50484	-.41081	.00070	-.89816	.01091	.05202
#3	.16811	-.00767	.67645	-1.3922	.02157	-2.2236	-.00247	.09920
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Sn1899	Sr4215
Units	ppb	ppm	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**.21403**	**.00500**	**.15695**	**.29264**	**1.7930**	**.40201**	**.11322**	**-.1823**
Stddev	.11543	.00265	.10189	.14084	.6886	.10246	.21454	.0896
%RSD	53.929	52.963	64.922	48.128	38.403	25.486	189.49	49.17
#1	.34535	.00195	.03970	.20694	1.1542	.36763	.13147	-.0864
#2	.16813	.00632	.22403	.45519	1.7023	.51724	.31806	-.1964
#3	.12863	.00672	.20712	.21579	2.5224	.32118	-.10986	-.2640
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Sample Name: SEQ-CCB Acquired: 2/3/2015 15:12:49 Type: QC
Method: 6500DUOBB(v341) Mode: CONC Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	TI1908	V_2924	Zn2062
Units	ppb	ppb	ppb	ppb
Avg	**-.03622**	**.38571**	**.24249**	**.07443**
Stddev	.18060	.16093	.17690	.01117
%RSD	498.58	41.724	72.952	15.008
#1	.06346	.32559	.42884	.06341
#2	.07256	.56805	.22177	.07414
#3	-.24469	.26349	.07686	.08574
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit				
Low Limit				

Int. Std.	Sc1880	Sc3613	Sc3613-2
Units	Cts/S	Cts/S	Cts/S
Avg	5198.9	1324500.	58507.
Stddev	7.2	5380.	109.
%RSD	.13934	.40621	.18547
#1	5190.5	1318300.	58393.
#2	5203.6	1328100.	58520.
#3	5202.5	1327200.	58609.

Sample Name: 5B02016-BLK1 Acquired: 2/3/2015 15:17:11 Type: QC
Method: 6500DUOBB(v341) Mode: CONC Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment: PBW020215

Elem	Ag3280	Al3961	As1890	B_2496	Ba2335	Be3130	Ca3179	Cd2144
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppb
Avg	**-.31320**	**-3.9102**	**-.70876**	**-.48349**	**.66596**	**.01586**	**.00885**	**.05369**
Stddev	.15285	9.5369	.16026	.14908	.02336	.02292	.00078	.00722
%RSD	48.802	243.90	22.612	30.835	3.5084	144.46	8.7876	13.449
#1	-.47363	-9.1200	-.52851	-.46673	.69071	.02168	.00836	.04684
#2	-.16927	-9.7074	-.83517	-.64024	.64429	.03532	.00845	.06123
#3	-.29669	7.0968	-.76261	-.34349	.66288	-.00940	.00975	.05299
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu3247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppb	ppb	ppb	ppb	ppm	ppb	ppm	ppb
Avg	**.08979**	**.26407**	**.64703**	**1.4425**	**-.00540**	**-2.2655**	**.00532**	**.11816**
Stddev	.04417	.13188	.15933	.6917	.00887	.2047	.00141	.01536
%RSD	49.190	49.940	24.625	47.951	164.34	9.0359	26.421	13.000
#1	.13406	.12498	.71898	1.5461	-.01538	-2.1880	.00688	.11048
#2	.04573	.38730	.46441	.70487	-.00239	-2.4977	.00414	.13585
#3	.08959	.27992	.75770	2.0766	.00158	-2.1109	.00495	.10816
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Sn1899	Sr4215
Units	ppb	ppm	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**.10422**	**.01481**	**.11879**	**-.22642**	**1.5625**	**.16260**	**.20364**	**-.1773**
Stddev	.04570	.00390	.08031	.43280	.9392	.90056	.15985	.0303
%RSD	43.850	26.335	67.609	191.15	60.108	553.83	78.497	17.08
#1	.08046	.01066	.02611	-.22104	.88283	-.63474	.38780	-.1856
#2	.15691	.01537	.16786	.20367	2.6341	1.1394	.10075	-.2026
#3	.07529	.01840	.16241	-.66188	1.1704	-.01681	.12237	-.1438
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Sample Name: 5B02016-BLK1 Acquired: 2/3/2015 15:17:11 Type: QC
Method: 6500DUOBB(v341) Mode: CONC Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment: PBW020215

Elem	Ti3349	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb	ppb
Avg	**-.03593**	**-.12784**	**.09141**	**.98478**
Stddev	.28692	.08852	.11800	.02181
%RSD	798.51	69.243	129.09	2.2146
#1	.27715	-.17376	.12054	.98697
#2	-.09862	-.18398	.19212	1.0054
#3	-.28632	-.02580	-.03843	.96197
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit				
Low Limit				

Int. Std.	Sc1880	Sc3613	Sc3613-2
Units	Cts/S	Cts/S	Cts/S
Avg	5325.4	1351800.	60245.
Stddev	20.6	10428.	139.
%RSD	.38761	.77144	.23103
#1	5334.7	1356200.	60107.
#2	5339.8	1339800.	60385.
#3	5301.8	1359200.	60243.

Sample Name: 5B02016-BS1 Acquired: 2/3/2015 15:21:33 Type: QC
Method: 6500DUOBB(v341) Mode: CONC Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment: LCSW020215

Elem	Ag3280	Al3961	As1890	B_2496	Ba2335	Be3130	Ca3179	Cd2144
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppb
Avg	**242.27**	**1895.7**	**234.79**	**921.56**	**1854.8**	**49.035**	**4.8138**	**126.67**
Stddev	2.54	9.1	1.20	8.70	7.5	.056	.0088	.72
%RSD	1.0500	.48261	.51170	.94383	.40355	.11364	.18236	.56687
#1	243.33	1885.7	233.85	923.97	1849.6	49.043	4.8237	126.07
#2	244.12	1903.6	234.38	928.80	1851.4	48.976	4.8106	126.46
#3	239.37	1897.9	236.14	911.91	1863.4	49.087	4.8071	127.46
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Co2286	Cr2677	Cu3247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppb	ppb	ppb	ppb	ppm	ppb	ppm	ppb
Avg	**472.25**	**195.88**	**243.70**	**1026.6**	**4.6572**	**931.49**	**4.9342**	**511.89**
Stddev	2.57	1.89	2.77	5.6	.0284	10.32	.0155	4.12
%RSD	.54399	.96502	1.1369	.54487	.60916	1.1084	.31404	.80516
#1	470.30	195.19	243.96	1021.5	4.6291	924.55	4.9398	511.54
#2	471.28	198.02	246.33	1032.6	4.6858	943.36	4.9166	516.18
#3	475.16	194.43	240.81	1025.6	4.6567	926.57	4.9460	507.96
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Sn1899	Sr4215
Units	ppb	ppm	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**929.51**	**4.8435**	**467.96**	**236.60**	**234.11**	**235.31**	**934.63**	**936.6**
Stddev	5.94	.0091	2.37	1.62	1.04	1.86	5.47	.9
%RSD	.63893	.18861	.50598	.68486	.44266	.78980	.58540	.0961
#1	925.11	4.8347	466.03	234.93	234.94	233.94	930.52	937.1
#2	927.15	4.8430	467.24	236.69	232.95	234.57	932.52	937.2
#3	936.26	4.8529	470.60	238.16	234.44	237.42	940.84	935.6
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Sample Name: 5B02016-BS1 Acquired: 2/3/2015 15:21:33 Type: QC
Method: 6500DUOBB(v341) Mode: CONC Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment: LCSW020215

Elem	Ti3349	TI1908	V_2924	Zn2062
Units	ppb	ppb	ppb	ppb
Avg	**945.51**	**247.26**	**476.75**	**475.44**
Stddev	1.43	1.49	3.75	2.93
%RSD	.15170	.60452	.78558	.61675
#1	944.37	245.92	477.14	472.79
#2	947.12	246.99	480.28	474.94
#3	945.04	248.87	472.82	478.59
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value				
Range				

Int. Std.	Sc1880	Sc3613	Sc3613-2
Units	Cts/S	Cts/S	Cts/S
Avg	**5189.1**	**1351600.**	**60812.**
Stddev	22.2	8695.	364.
%RSD	.42702	.64331	.59863
#1	5213.0	1350900.	60475.
#2	5185.0	1343200.	61198.
#3	5169.2	1360600.	60762.

Sample Name: 1501134-04 Acquired: 2/3/2015 15:26:46 Type: Unk
Method: 6500DUOBB(v341) Mode: CONC Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment: CB&I

Elem	Ag3280	Al3961	As1890	B_2496	Ba2335	Be3130	Ca3179	Cd2144
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppb
Avg	**-.33279**	**2173.7**	**1.2564**	**8.6102**	**176.04**	**.11456**	**76.343**	**-.23057**
Stddev	.07466	9.9	.3081	.2877	.52	.01633	.970	.04124
%RSD	22.434	.45455	24.522	3.3418	.29803	14.252	1.2700	17.885
#1	-.41722	2165.4	1.6120	8.9419	175.61	.10825	77.410	-.24529
#2	-.30566	2171.1	1.0723	8.4607	175.90	.10233	75.516	-.18399
#3	-.27549	2184.6	1.0847	8.4280	176.63	.13310	76.103	-.26244

Elem	Co2286	Cr2677	Cu3247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppb	ppb	ppb	ppb	ppm	ppb	ppm	ppb
Avg	**2.5317**	**5.7081**	**8.5623**	**4532.7**	**4.2482**	**28.692**	**43.366**	**205.78**
Stddev	.1684	.1664	.1628	6.3	.0028	.538	.113	1.72
%RSD	6.6527	2.9160	1.9017	.13935	.06543	1.8736	.25963	.83377
#1	2.7099	5.6518	8.6051	4530.8	4.2507	29.198	43.417	206.58
#2	2.3751	5.5770	8.6995	4527.5	4.2452	28.750	43.236	206.95
#3	2.5101	5.8953	8.3824	4539.7	4.2486	28.127	43.443	203.81

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Sn1899	Sr4215
Units	ppb	ppm	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**1.0113**	**61.667**	**4.4479**	**1.3443**	**.81996**	**.70890**	**.38713**	**57.30**
Stddev	.0340	.083	.0927	.3206	.67650	1.1654	.02761	.07
%RSD	3.3588	.13478	2.0846	23.851	82.504	164.39	7.1311	.1303
#1	.99509	61.667	4.4621	1.6830	1.3077	-.11586	.38543	57.32
#2	1.0503	61.585	4.5327	1.3045	1.1045	.20045	.36041	57.22
#3	.98839	61.751	4.3489	1.0455	.04767	2.0421	.41554	57.36

Elem	Ti3349	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb	ppb
Avg	**18.977**	**-.28665**	**3.9964**	**33.868**
Stddev	1.001	.24135	.0615	.099
%RSD	5.2771	84.197	1.5393	.29088
#1	19.877	-.21708	4.0441	33.766
#2	17.898	-.08773	3.9270	33.875
#3	19.154	-.55515	4.0182	33.963

Sample Name: 1501134-04 Acquired: 2/3/2015 15:26:46 Type: Unk
Method: 6500DUOBB(v341) Mode: CONC Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment: CB&I

Int. Std.	Sc1880	Sc3613	Sc3613-2
Units	Cts/S	Cts/S	Cts/S
Avg	4666.3	1279000.	59861.
Stddev	17.8	12141.	283.
%RSD	.38188	.94925	.47345
#1	4686.6	1270700.	59559.
#2	4659.1	1273300.	60121.
#3	4653.2	1292900.	59904.

Sample Name: SEQ-CCV Acquired: 2/3/2015 16:10:46 Type: QC
Method: 6500DUOBB(v341) Mode: CONC Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment: 15A0707

Elem	Ag3280	Al3961	As1890	B_2496	Ba2335	Be3130	Ca3179	Cd2144
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppb
Avg	**485.02**	**9835.3**	**1003.8**	**987.05**	**967.89**	**1015.7**	**48.721**	**1050.3**
Stddev	4.72	18.8	4.3	11.28	3.82	3.5	.044	5.5
%RSD	.97345	.19109	.43022	1.1431	.39458	.34062	.09014	.52517
#1	487.22	9856.6	1000.8	995.17	965.82	1019.4	48.771	1048.9
#2	479.60	9828.2	1001.7	974.17	965.55	1012.6	48.688	1045.6
#3	488.25	9821.1	1008.7	991.82	972.30	1015.1	48.703	1056.4
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Co2286	Cr2677	Cu3247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppb	ppb	ppb	ppb	ppm	ppb	ppm	ppb
Avg	**942.30**	**1021.7**	**950.57**	**10228.**	**9.6945**	**988.60**	**49.592**	**1027.0**
Stddev	3.89	11.5	10.14	31.	.0203	10.22	.151	6.9
%RSD	.41319	1.1263	1.0664	.30750	.20978	1.0337	.30409	.67292
#1	941.48	1032.8	957.52	10263.	9.7179	993.14	49.758	1029.2
#2	938.88	1009.9	938.93	10203.	9.6820	976.90	49.555	1019.2
#3	946.53	1022.5	955.24	10217.	9.6835	995.76	49.463	1032.5
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Sn1899	Sr4215
Units	ppb	ppm	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**992.22**	**50.431**	**960.85**	**935.52**	**980.85**	**1022.2**	**975.18**	**973.4**
Stddev	5.98	.036	3.74	5.88	2.62	6.2	5.17	.9
%RSD	.60270	.07159	.38926	.62843	.26702	.60846	.53032	.0896
#1	990.04	50.470	960.36	933.35	982.53	1020.2	972.71	974.0
#2	987.64	50.400	957.38	931.03	977.83	1017.2	971.70	972.4
#3	998.99	50.422	964.81	942.17	982.20	1029.1	981.12	973.8
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Sample Name: SEQ-CCV Acquired: 2/3/2015 16:10:46 Type: QC
Method: 6500DUOBB(v341) Mode: CONC Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment: 15A0707

Elem	Ti3349	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb	ppb
Avg	**976.37**	**949.26**	**1002.3**	**1021.7**
Stddev	2.60	2.45	11.0	4.7
%RSD	.26637	.25855	1.0996	.46091
#1	979.10	948.66	1011.0	1019.3
#2	973.93	947.16	989.88	1018.7
#3	976.09	951.96	1005.9	1027.2
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value				
Range				

Int. Std.	Sc1880	Sc3613	Sc3613-2
Units	Cts/S	Cts/S	Cts/S
Avg	4697.1	1257000.	**59123.**
Stddev	9.4	9901.	251.
%RSD	.20055	.78769	.42395
#1	4701.6	1249600.	59025.
#2	4703.5	1268300.	58937.
#3	4686.3	1253200.	59408.

Sample Name: SEQ-CCB Acquired: 2/3/2015 16:18:07 Type: QC
Method: 6500DUOBB(v341) Mode: CONC Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	B_2496	Ba2335	Be3130	Ca3179	Cd2144
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppb
Avg	**.14300**	**-10.848**	**-.05911**	**.09254**	**.08677**	**-.00960**	**-.00047**	**.03131**
Stddev	.33109	2.258	.80883	.15668	.01353	.00999	.00133	.02069
%RSD	231.54	20.812	1368.3	169.31	15.589	104.03	280.77	66.088
#1	.52433	-9.8538	.75010	-.08835	.09975	.00193	-.00094	.00764
#2	-.07133	-9.2588	-.05988	.18024	.07276	-.01511	.00102	.04597
#3	-.02401	-13.433	-.86756	.18572	.08779	-.01562	-.00150	.04032
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu3247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppb	ppb	ppb	ppb	ppm	ppb	ppm	ppb
Avg	**.20238**	**.17858**	**.36088**	**-1.9670**	**-.00884**	**-1.1091**	**.00158**	**.03958**
Stddev	.07997	.04034	.18584	2.6201	.00705	.8428	.00666	.01045
%RSD	39.513	22.592	51.496	133.20	79.698	75.990	422.32	26.404
#1	.13550	.13512	.50716	.23425	-.01043	-.90961	.00033	.04510
#2	.29096	.21483	.15177	-4.8651	-.01496	-.38394	-.00437	.02753
#3	.18068	.18579	.42369	-1.2702	-.00114	-2.0338	.00878	.04612
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Sn1899	Sr4215
Units	ppb	ppm	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**.13555**	**.00168**	**.14069**	**-.08440**	**1.0315**	**.77500**	**.21484**	**-.2533**
Stddev	.05489	.00919	.04613	.06991	1.1241	.22927	.09246	.0579
%RSD	40.497	546.85	32.786	82.826	108.97	29.583	43.036	22.86
#1	.17674	-.00450	.17158	-.06305	.08211	1.0342	.32135	-.3023
#2	.15669	-.00270	.16282	-.02766	.73972	.59892	.16791	-.1894
#3	.07323	.01225	.08767	-.16250	2.2728	.69184	.15526	-.2683
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Sample Name: SEQ-CCB Acquired: 2/3/2015 16:18:07 Type: QC
Method: 6500DUOBB(v341) Mode: CONC Corr. Factor: 1.000000
User: rburr Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	TI1908	V_2924	Zn2062
Units	ppb	ppb	ppb	ppb
Avg	**-.10658**	**.45623**	**.19108**	**-.01204**
Stddev	.17671	.27525	.02742	.02987
%RSD	165.80	60.330	14.348	248.00
#1	-.11639	.77272	.21889	-.04614
#2	.07483	.32321	.19026	.00047
#3	-.27818	.27277	.16408	.00953
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit				
Low Limit				

Int. Std.	Sc1880	Sc3613	Sc3613-2
Units	Cts/S	Cts/S	Cts/S
Avg	5204.0	1311200.	58388.
Stddev	41.0	5575.	449.
%RSD	.78831	.42519	.76890
#1	5237.2	1305200.	57875.
#2	5216.5	1316200.	58584.
#3	5158.1	1312300.	58706.

Mercury

Client: CB&I, SES, URS, EA ENGINEERING

Curve Date: 2/5/2015 Curve age OK
Correlation (r): 0.99989 Corr. OK
Correlation (r2) 0.99977 Corr. OK
Slope: 0.0042839
Intercept: 0.0002462

RL= 0.20 ug/l for H2O and TCLP
0.033 mg/kg (using 0.30 g) for soils or other
MDL= 0.08 ug/L WATER AND 0.013 mg/Kg SOIL
QC Criteria: Method Blank < 1/2 RL
LCS = ±20% of True Value
CCB =<MDL

Curve Data*			
Analysis Time	Conc.(ug/L)	Pk Height	Cal. ID
13:06:42	0.0000	0.000123	15B0122
13:07:35	0.2000	0.001117	15B0123
13:08:47	0.5000	0.002291	15B0124
13:10:00	1.0000	0.004355	15B0125
13:11:13	2.0000	0.008854	15B0126
13:12:28	4.0000	0.017888	15B0127
13:13:44	6.0000	0.026007	15B0128
13:15:00	10.0000	0.042862	15B0129

***Mercury calibration standards were digested using the same reagents and in the same manner as samples in batch_____**

Empirical Laboratories

Block Temperature(s): A:94,94
Analysis Date: 2/5/2015
Time On: 9:10
Time Off: 11:10
Digestion by: AJN
Digestion Date: 2/5/2015
Analyst: AJN
Analyst Authorization: Teresa Neal
Method#: 245.1/7470A for H2O
7471A or 7471B for soils
Method Type: Cold Vapor
5B04018 **Batch:** 5B04018
Sequence: 5B03606
Cal ID: 5036002

Concentration (ug/L) = (Peak Height - intercept)/slope * dilution
Conversion for soils from concentration (ug/L) to mg/kg (wet weight) = concentration (ug/L) * final volume (mL)/initial weight (g) * 1L/1000mL * 1000g/1kg * 1g/1000mg

Lab. #	Client	Waste Description	T.V. (ug/L) (mg/kg)	Analysis Time HH:MM (Military)	Matrix Type	Digestion		Analysis		Dilution	Peak Height	[Hg] ug/L	[Hg] mg/kg	Recovery %	Control Limits		RPD	Block	Method
						Initial Sample Volume	Final Sample Volume (mL)	Initial Sample Volume (mL)	Final Sample Volume (mL)						Low Limit %	High Limit %			
SEQ-CAL1	QC	15B0122		13:06:42	H2O	30.00	30.0	30.0	30.0	1.00	0.000123	-0.0289						A	7470A
SEQ-CAL2	QC	15B0123	0.2000	13:07:35	H2O	30.00	30.0	30.0	30.0	1.00	0.001117	0.2033		101.66				A	7470A
SEQ-CAL3	QC	15B0124	0.5000	13:08:47	H2O	30.00	30.0	30.0	30.0	1.00	0.002291	0.4774		95.48				A	7470A
SEQ-CAL4	QC	15B0125	1.0000	13:10:00	H2O	30.00	30.0	30.0	30.0	1.00	0.004355	0.9592		95.92				A	7470A
SEQ-CAL5	QC	15B0126	2.0000	13:11:13	H2O	30.00	30.0	30.0	30.0	1.00	0.008854	2.0093		100.47				A	7470A
SEQ-CAL6	QC	15B0127	4.0000	13:12:28	H2O	30.00	30.0	30.0	30.0	1.00	0.017888	4.1182		102.96				A	7470A
SEQ-CAL7	QC	15B0128	6.0000	13:13:44	H2O	30.00	30.0	30.0	30.0	1.00	0.026007	6.0134		100.22				A	7470A
SEQ-CAL8	QC	15B0129	10.0000	13:15:00	H2O	30.00	30.0	30.0	30.0	1.00	0.042862	9.9479		99.48				A	7470A
SEQ-ICV	QC	15B0130	4.0000	13:17:56	H2O	30.00	30.0	30.0	30.0	1.00	0.017267	3.9733		99.33	95.0	105.0		A	7470A
SEQ-ICB	QC	15B0122		13:19:08	H2O	30.00	30.0	30.0	30.0	1.00	0.000152	-0.0221						A	7470A
LOTBLK1 15B0134	QC			13:20:25	H2O	30.00	30.0	30.0	30.0	1.00	0.000259	0.0030						A	7470A
LOTBLK2 15B0134	QC			13:21:38	H2O	30.00	30.0	30.0	30.0	1.00	0.000236	-0.0024						A	7470A
LOTBLK3 15B0134	QC			13:22:31	H2O	30.00	30.0	30.0	30.0	1.00	0.000157	-0.0207						A	7470A
LOTBLK4 15B0134	QC			13:23:24	H2O	30.00	30.0	30.0	30.0	1.00	0.000236	-0.0024						A	7470A
LOTBLK5 15B0134	QC			13:24:16	H2O	30.00	30.0	30.0	30.0	1.00	0.000158	-0.0207						A	7470A
SEQ-CCV	QC	15B0126	2.0000	13:25:09	H2O	30.00	30.0	30.0	30.0	1.00	0.008677	1.9680		98.40	90.0	110.0		A	7470A
SEQ-CCB	QC	15B0122		13:26:23	H2O	30.00	30.0	30.0	30.0	1.00	0.000193	-0.0124						A	7470A
5B04018-BLK1	QC			13:27:15	H2O	30.00	30.0	30.0	30.0	1.00	0.000138	-0.0253						A	7470A
5B04018-BS1	QC	14D0359	2.0000	13:28:06	H2O	30.00	30.0	30.0	30.0	1.00	0.00893	2.0271		101.36	85.0	115.0		A	7470A
1501095-01	CB&I			13:29:18	H2O	30.00	30.0	30.0	30.0	1.00	0.000143	-0.0241						A	7470A
1501112-02	CB&I			13:30:10	H2O	30.00	30.0	30.0	30.0	1.00	0.000193	-0.0123						A	7470A
1501112-03	CB&I			13:31:01	H2O	30.00	30.0	30.0	30.0	1.00	0.000179	-0.0157						A	7470A
1501112-04	CB&I			13:31:53	H2O	30.00	30.0	30.0	30.0	1.00	0.000172	-0.0173						A	7470A
1501112-05	CB&I			13:32:46	H2O	30.00	30.0	30.0	30.0	1.00	0.000243	-0.0007						A	7470A
1501112-06	CB&I			13:33:38	H2O	30.00	30.0	30.0	30.0	1.00	0.000191	-0.0129						A	7470A
1501112-07	CB&I			13:34:30	H2O	30.00	30.0	30.0	30.0	1.00	0.000275	0.0068						A	7470A
1501112-08	CB&I			13:35:44	H2O	30.00	30.0	30.0	30.0	1.00	0.000297	0.0119						A	7470A
5B04018-MS1	1501112-08	14D0359	2.0000	13:36:59	H2O	30.00	30.0	30.0	30.0	1.00	0.009277	2.1081		105.41	80.0	120.0		A	7470A
5B04018-MSD1	1501112-08	14D0359	2.0000	13:38:15	H2O	30.00	30.0	30.0	30.0	1.00	0.009548	2.1714		108.57	80.0	120.0		A	7470A
1501113-01	CB&I			13:39:31	H2O	30.00	30.0	30.0	30.0	1.00	0.000305	0.0137						A	7470A
1501114-06	SES			13:40:47	H2O	30.00	30.0	30.0	30.0	1.00	0.000322	0.0177 ✓						A	7470A
SEQ-CCV	QC	15B0126	2.0000	13:41:59	H2O	30.00	30.0	30.0	30.0	1.00	0.008619	1.9544		97.72	90.0	110.0		A	7470A
SEQ-CCB	QC	15B0122		13:43:08	H2O	30.00	30.0	30.0	30.0	1.00	0.000266	0.0045						A	7470A

1501114-06 $\frac{.000322 - .0002462}{.0042839} = .017694157$ ✓ ug/L

2nd ✓ BLQ 2/6/15

Lab. #	Client	Waste Description	T.V. (ug/L) (mg/kg)	Analysis Time HH:MM (Military)	Matrix Type	Digestion		Analysis		Dilution	Peak Height	[Hg] ug/L	[Hg] mg/kg	Recovery %	Control Limits		RPD	Block	Method
						Initial Sample Volume	Final Sample Volume (mL)	Initial Sample Volume (mL)	Final Sample Volume (mL)						Low Limit %	High Limit %			
1501122-01	SES			13:44:18	H2O	30.00	30.0	30.0	30.0	1.00	0.000293	0.0108						A	7470A
5B04018-MS2	1501122-01	14D0359	2.0000	13:45:29	H2O	30.00	30.0	30.0	30.0	1.00	0.0093	2.1134		105.67	80.0	120.0		A	7470A
5B04018-MSD2	1501122-01	14D0359	2.0000	13:46:39	H2O	30.00	30.0	30.0	30.0	1.00	0.009805	2.2313		111.57	80.0	120.0		A	7470A
1501122-02	SES			13:47:50	H2O	30.00	30.0	30.0	30.0	1.00	0.00033	0.0196						A	7470A
1501134-04	CB&I			13:49:02	H2O	30.00	30.0	30.0	30.0	1.00	0.000224	-0.0051						A	7470A
1501140-02	CB&I			13:49:53	H2O	30.00	30.0	30.0	30.0	1.00	0.000157	-0.0209						A	7470A
1502016-02	URS			13:50:46	H2O	30.00	30.0	30.0	30.0	1.00	0.000329	0.0192						A	7470A
1502025-01	EA			13:51:59	H2O	30.00	30.0	30.0	30.0	1.00	0.000343	0.0226						A	7470A
1502025-02	EA			13:53:14	H2O	30.00	30.0	30.0	30.0	1.00	0.000338	0.0213						A	7470A
SEQ-CCV	QC	15B0127	4.0000	13:54:28	H2O	30.00	30.0	30.0	30.0	1.00	0.017699	4.0740		101.85	90.0	110.0		A	7470A
SEQ-CCB	QC	15B0122		13:55:43	H2O	30.00	30.0	30.0	30.0	1.00	0.000196	-0.0118						A	7470A

301
1501134

Analysis Begun

Logged In Analyst: mercury
Technique: AA FIMS-MHS
Spectrometer Model: FIMS-100, S/N B050-9550
Autosampler Model: AS-90

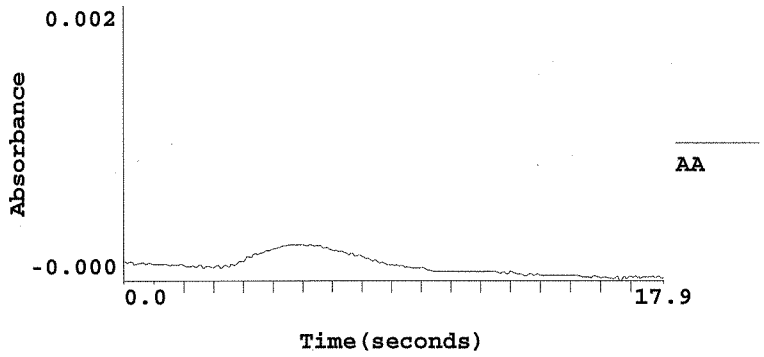
Sample Information File: C:\data-AA\Sample Information\020515W.sif
Batch ID: 020515W
Results Data Set: 020515W
Results Library: C:\data-AA\Results\Results.mdb

Method Loaded
Method Name: Hg CAL2
Method Last Saved: 8/5/2014 10:25:04 AM
Method Description: Hg CAL2

Sequence No.: 1
Autosampler Location: 1
Sample ID: SEQ-CAL1
Date Collected: 2/5/2015 1:05:50 PM
Analyst:
Data Type: Original

Replicate Data: SEQ-CAL1

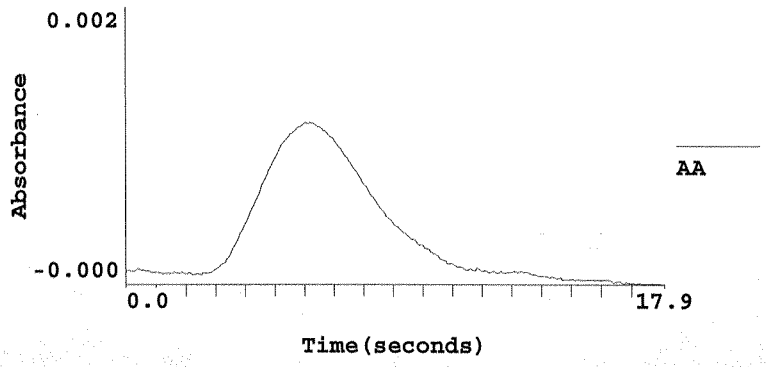
Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.00]	0.0001	-0.0008	0.0001	13:06:42	Yes



Sequence No.: 2
Autosampler Location: 2
Sample ID: SEQ-CAL2
Date Collected: 2/5/2015 1:06:44 PM
Analyst:
Data Type: Original

Replicate Data: SEQ-CAL2

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.20]	0.0010	0.0039	0.0011	13:07:35	Yes



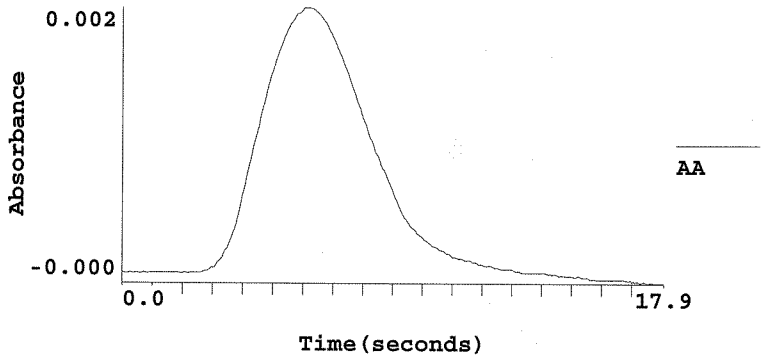
Sequence No.: 3
Autosampler Location: 3

Sample ID: SEQ-CAL3
Analyst:

Date Collected: 2/5/2015 1:07:53 PM
Data Type: Original

Replicate Data: SEQ-CAL3

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.50]	0.0022	0.0087	0.0023	13:08:47	Yes

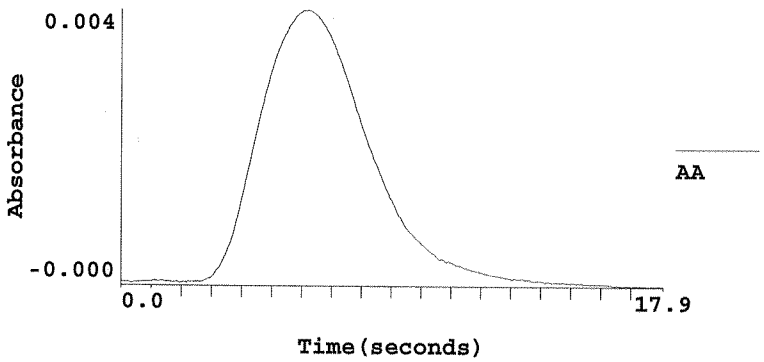


Sequence No.: 4
Sample ID: SEQ-CAL4
Analyst:

Autosampler Location: 4
Date Collected: 2/5/2015 1:09:06 PM
Data Type: Original

Replicate Data: SEQ-CAL4

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[1.00]	0.0042	0.0176	0.0044	13:10:00	Yes

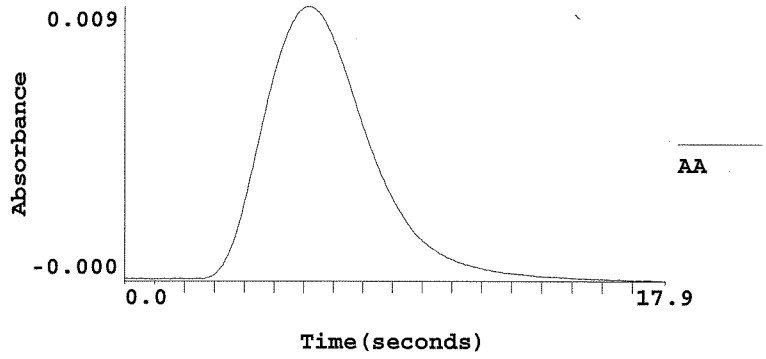


Sequence No.: 5
Sample ID: SEQ-CAL5
Analyst:

Autosampler Location: 5
Date Collected: 2/5/2015 1:10:20 PM
Data Type: Original

Replicate Data: SEQ-CAL5

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[2.00]	0.0087	0.0352	0.0089	13:11:13	Yes

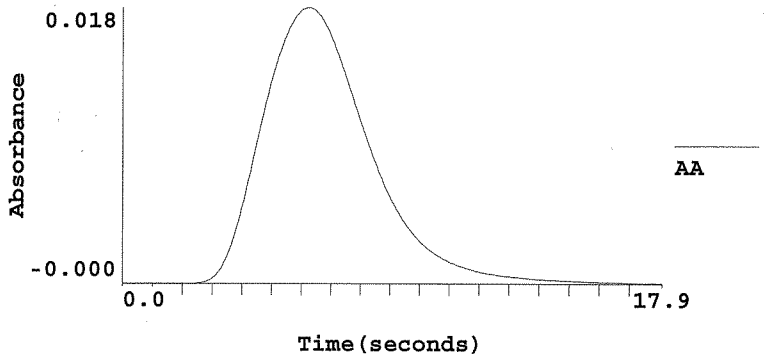


Sequence No.: 6
Sample ID: SEQ-CAL6
Analyst:

Autosampler Location: 6
Date Collected: 2/5/2015 1:11:34 PM
Data Type: Original

Replicate Data: SEQ-CAL6

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[4.00]	0.0178	0.0733	0.0179	13:12:28	Yes

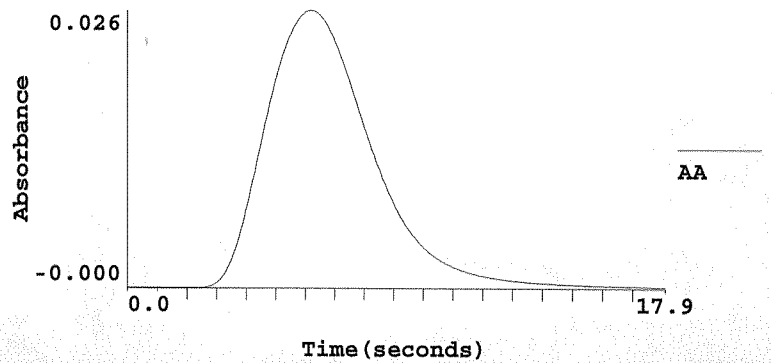


Sequence No.: 7
Sample ID: SEQ-CAL7
Analyst:

Autosampler Location: 7
Date Collected: 2/5/2015 1:12:49 PM
Data Type: Original

Replicate Data: SEQ-CAL7

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[6.00]	0.0259	0.1068	0.0260	13:13:44	Yes

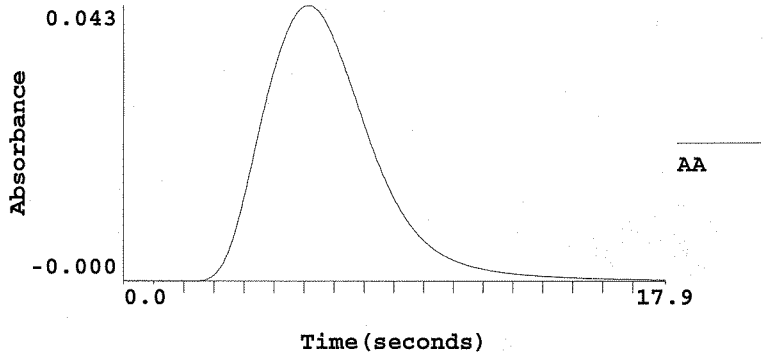


Sequence No.: 8
Sample ID: SEQ-CAL8
Analyst:

Autosampler Location: 8
Date Collected: 2/5/2015 1:14:05 PM
Data Type: Original

Replicate Data: SEQ-CAL8

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[10.00]	0.0427	0.1767	0.0429	13:15:00	Yes



Calibration data for Hg 253.7 Equation: Linear, Calculated Intercept

ID	Mean Signal (Abs)	Entered Conc. ug/L	Calculated Conc. ug/L	Standard Deviation	%RSD
SEQ-CAL1	0.0000	0	-0.029	----	----
SEQ-CAL2	0.0010	0.20	0.203	----	----
SEQ-CAL3	0.0022	0.50	0.477	----	----
SEQ-CAL4	0.0042	1.00	0.959	----	----
SEQ-CAL5	0.0087	2.00	2.009	----	----
SEQ-CAL6	0.0178	4.00	4.118	----	----
SEQ-CAL7	0.0259	6.00	6.013	----	----
SEQ-CAL8	0.0427	10.00	9.948	----	----

Correlation Coef.: 0.999885 Slope: 0.00428 Intercept: 0.00012

==========

Analysis Begun

Logged In Analyst: mercury
Technique: AA FIMS-MHS
Spectrometer Model: FIMS-100, S/N B050-9550
Autosampler Model: AS-90

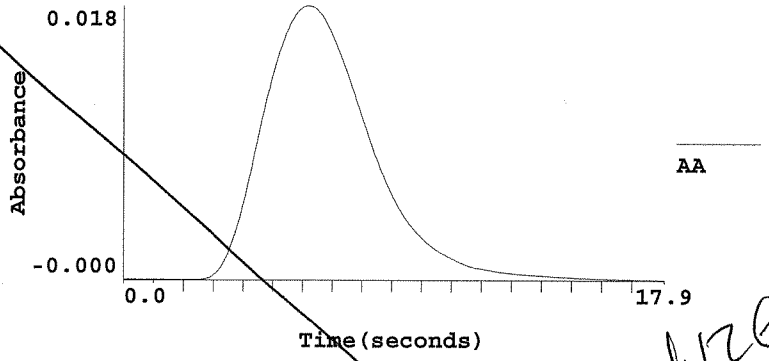
Sample Information File: C:\data-AA\Sample Information\020515W.sif
Batch ID: 020515W
Results Data Set: 020515W
Results Library: C:\data-AA\Results\Results.mdb

==========

Sequence No.: 1
Autosampler Location: 9
Sample ID: SEQ-ICV
Date Collected: 2/5/2015 1:15:34 PM
Analyst:
Data Type: Original

Replicate Data: SEQ-ICV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	4.219	4.219	0.0182	0.0752	0.0183	13:16:25	Yes



reanalyze
AW 2-5-15

All analyte(s) passed QC.
User canceled analysis.

==========

Analysis Begun

Logged In Analyst: mercury
Technique: AA FIMS-MHS
Spectrometer Model: FIMS-100, S/N B050-9550
Autosampler Model: AS-90

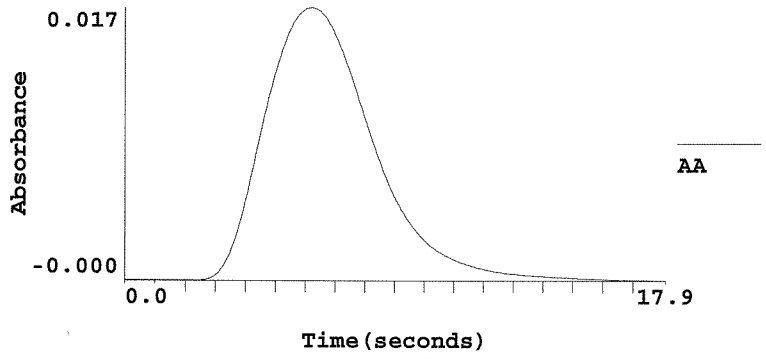
Sample Information File: C:\data-AA\Sample Information\020515W.sif
Batch ID: 020515W
Results Data Set: 020515W
Results Library: C:\data-AA\Results\Results.mdb

==========

Sequence No.: 1
Autosampler Location: 9
Sample ID: SEQ-ICV
Date Collected: 2/5/2015 1:17:04 PM
Analyst:
Data Type: Original

Replicate Data: SEQ-ICV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	3.973	3.973	0.0171	0.0715	0.0173	13:17:56	Yes



All analyte(s) passed QC.

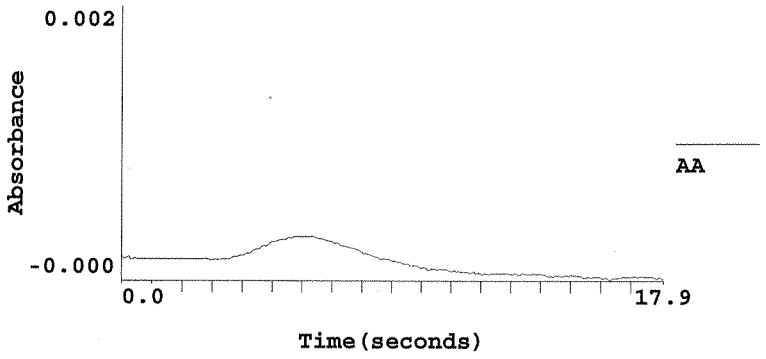
==========

Sequence No.: 2
Sample ID: SEQ-ICB
Analyst:

Autosampler Location: 10
Date Collected: 2/5/2015 1:18:15 PM
Data Type: Original

Replicate Data: SEQ-ICB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.022	-0.022	0.0000	-0.0011	0.0002	13:19:08	Yes



All analyte(s) passed QC.
User canceled analysis.

==========

Analysis Begun

Logged In Analyst: mercury
Technique: AA FIMS-MHS
Spectrometer Model: FIMS-100, S/N B050-9550
Autosampler Model: AS-90

Sample Information File: C:\data-AA\Sample Information\020515W.sif
Batch ID: 020515W
Results Data Set: 020515W
Results Library: C:\data-AA\Results\Results.mdb

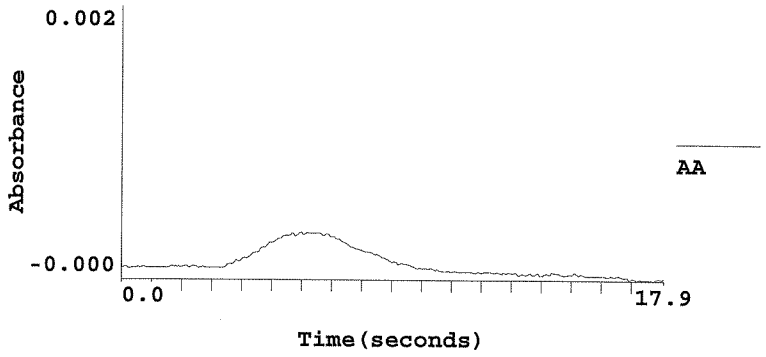
==========

Sequence No.: 3
Sample ID: LOTBLK1 15B0134
Analyst:

Autosampler Location: 11
Date Collected: 2/5/2015 1:19:32 PM
Data Type: Original

Replicate Data: LOTBLK1 15B0134

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.003	0.003	0.0001	0.0003	0.0003	13:20:25	Yes

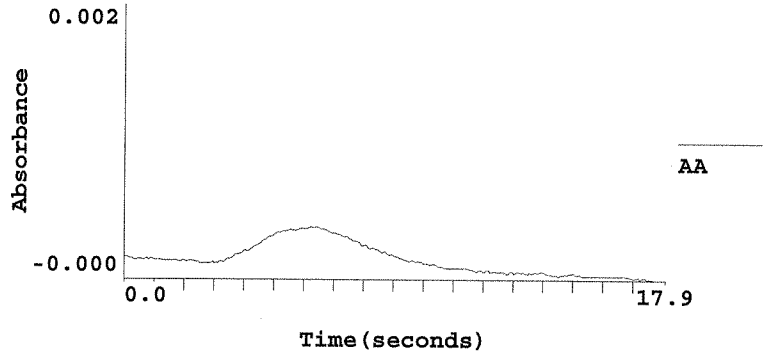


Sequence No.: 4
Sample ID: LOTBLK2 15B0134
Analyst:

Autosampler Location: 12
Date Collected: 2/5/2015 1:20:45 PM
Data Type: Original

Replicate Data: LOTBLK2 15B0134

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.002	-0.002	0.0001	-0.0005	0.0002	13:21:38	Yes

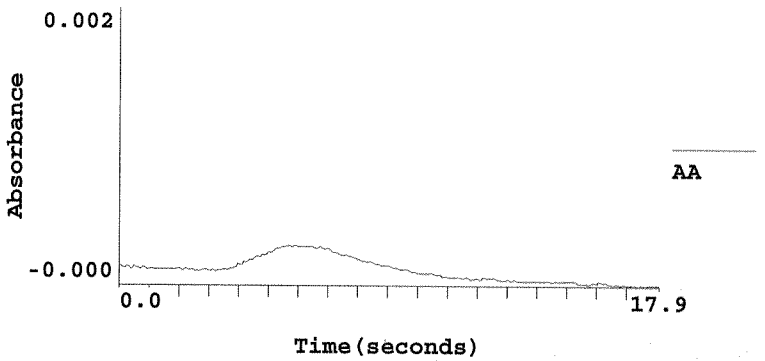


Sequence No.: 5
Sample ID: LOTBLK3 15B0134
Analyst:

Autosampler Location: 13
Date Collected: 2/5/2015 1:21:40 PM
Data Type: Original

Replicate Data: LOTBLK3 15B0134

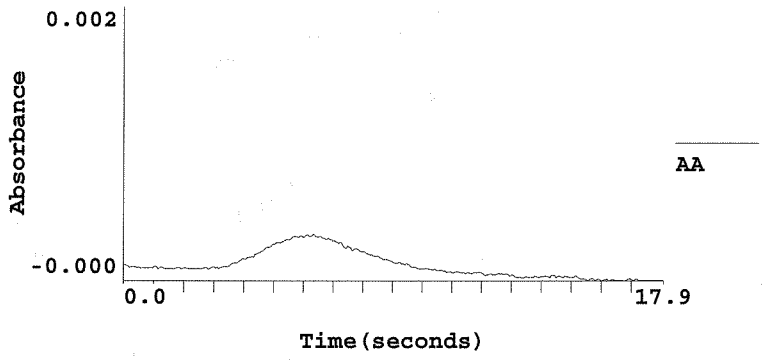
Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.021	-0.021	0.0000	-0.0006	0.0002	13:22:31	Yes



Sequence No.: 6
Sample ID: LOTBLK4 15B0134
Analyst:
Autosampler Location: 14
Date Collected: 2/5/2015 1:22:32 PM
Data Type: Original

Replicate Data: LOTBLK4 15B0134

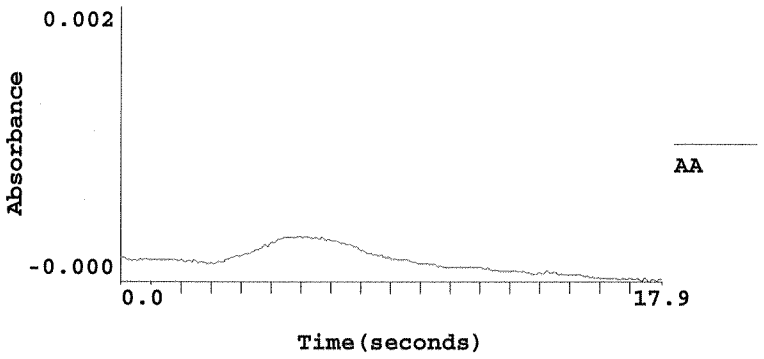
Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.002	-0.002	0.0001	-0.0001	0.0002	13:23:24	Yes



Sequence No.: 7
Sample ID: LOTBLK5 15B0134
Analyst:
Autosampler Location: 15
Date Collected: 2/5/2015 1:23:25 PM
Data Type: Original

Replicate Data: LOTBLK5 15B0134

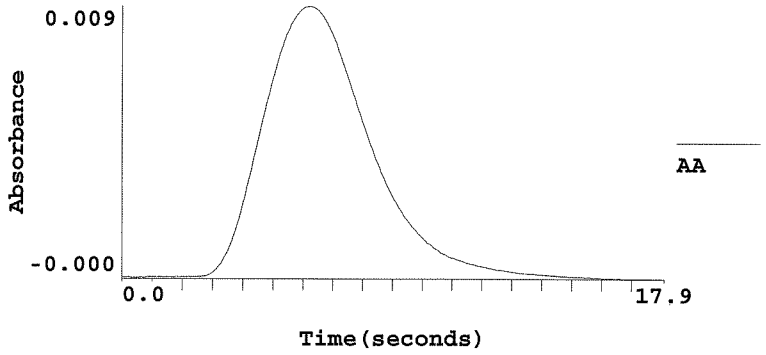
Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.021	-0.021	0.0000	-0.0008	0.0002	13:24:16	Yes



Sequence No.: 8
Sample ID: SEQ-CCV
Analyst:
Autosampler Location: 16
Date Collected: 2/5/2015 1:24:18 PM
Data Type: Original

Replicate Data: SEQ-CCV

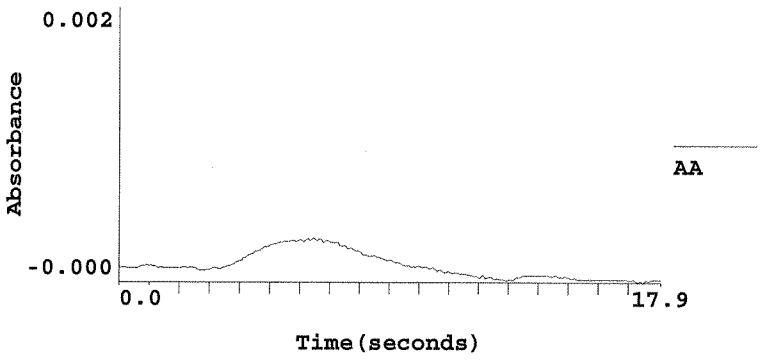
Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	1.968	1.968	0.0086	0.0347	0.0087	13:25:09	Yes



Sequence No.: 9 Autosampler Location: 17
Sample ID: SEQ-CCB Date Collected: 2/5/2015 1:25:31 PM
Analyst: Data Type: Original

Replicate Data: SEQ-CCB

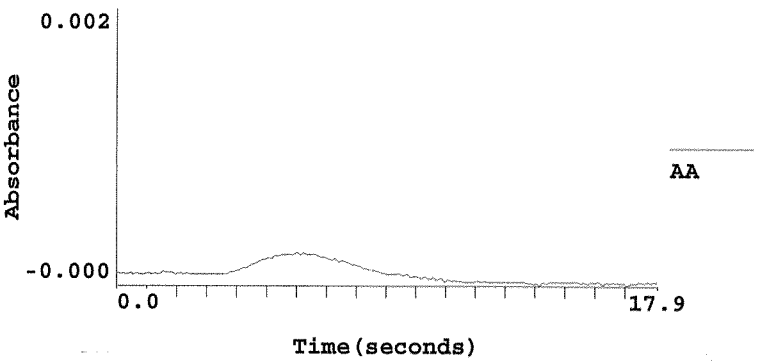
Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.012	-0.012	0.0001	-0.0005	0.0002	13:26:23	Yes



Sequence No.: 10 Autosampler Location: 18
Sample ID: 5B04018-BLK1 Date Collected: 2/5/2015 1:26:24 PM
Analyst: Data Type: Original

Replicate Data: 5B04018-BLK1

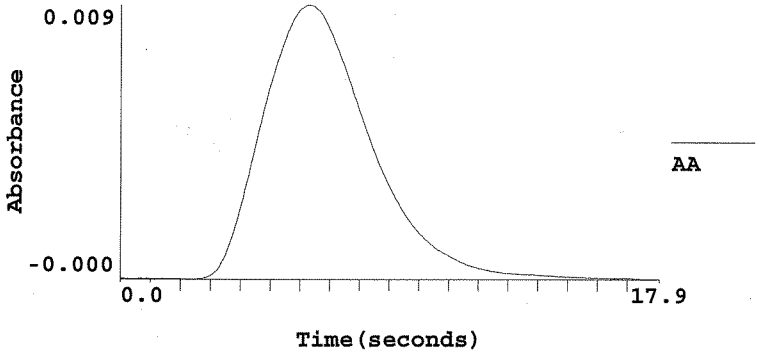
Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.025	-0.025	0.0000	-0.0004	0.0001	13:27:15	Yes



Sequence No.: 11
Sample ID: 5B04018-BS1
Analyst:
Autosampler Location: 19
Date Collected: 2/5/2015 1:27:16 PM
Data Type: Original

Replicate Data: 5B04018-BS1

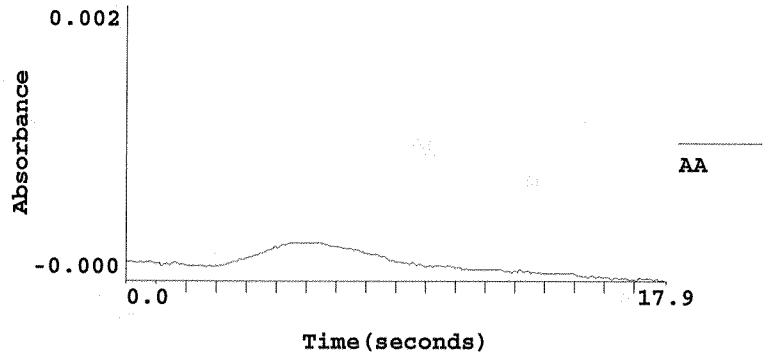
Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	2.027	2.027	0.0088	0.0366	0.0089	13:28:06	Yes



Sequence No.: 12
Sample ID: 1501095-01
Analyst:
Autosampler Location: 20
Date Collected: 2/5/2015 1:28:25 PM
Data Type: Original

Replicate Data: 1501095-01

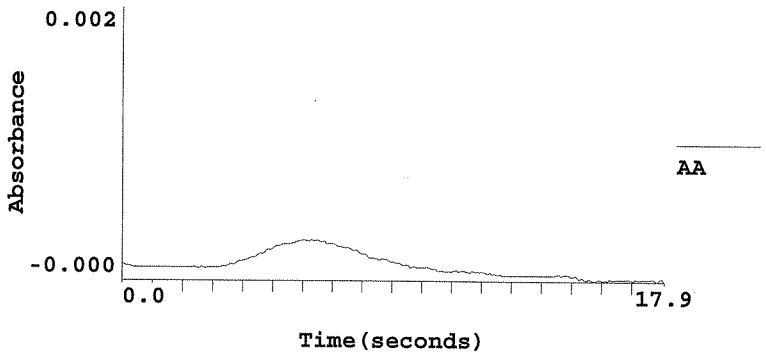
Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.024	-0.024	0.0000	-0.0004	0.0001	13:29:18	Yes



Sequence No.: 13
Sample ID: 1501112-02
Analyst:
Autosampler Location: 21
Date Collected: 2/5/2015 1:29:19 PM
Data Type: Original

Replicate Data: 1501112-02

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.012	-0.012	0.0001	-0.0001	0.0002	13:30:10	Yes

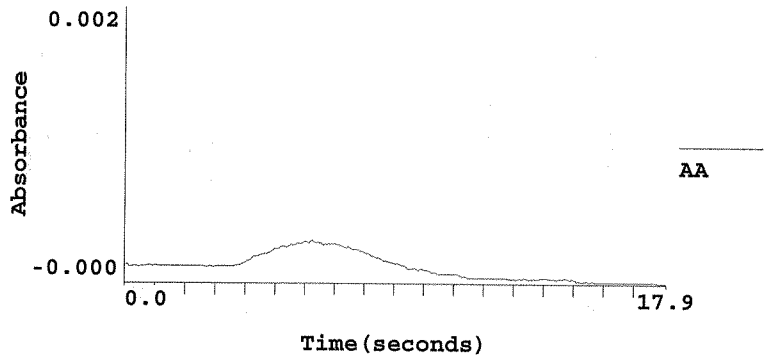


Sequence No.: 14
Sample ID: 1501112-03
Analyst:

Autosampler Location: 22
Date Collected: 2/5/2015 1:30:11 PM
Data Type: Original

Replicate Data: 1501112-03

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.016	-0.016	0.0001	-0.0006	0.0002	13:31:01	Yes

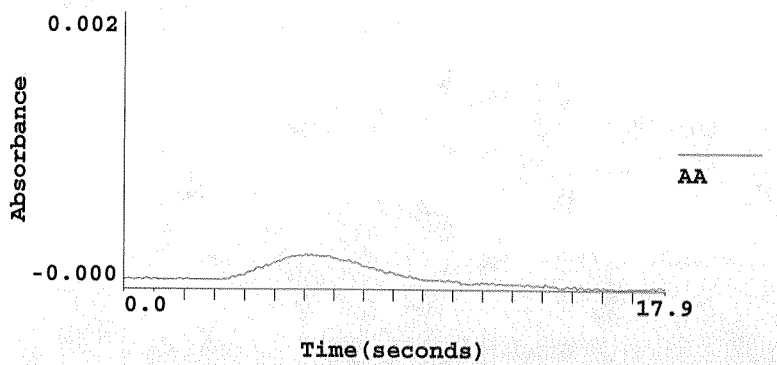


Sequence No.: 15
Sample ID: 1501112-04
Analyst:

Autosampler Location: 23
Date Collected: 2/5/2015 1:31:03 PM
Data Type: Original

Replicate Data: 1501112-04

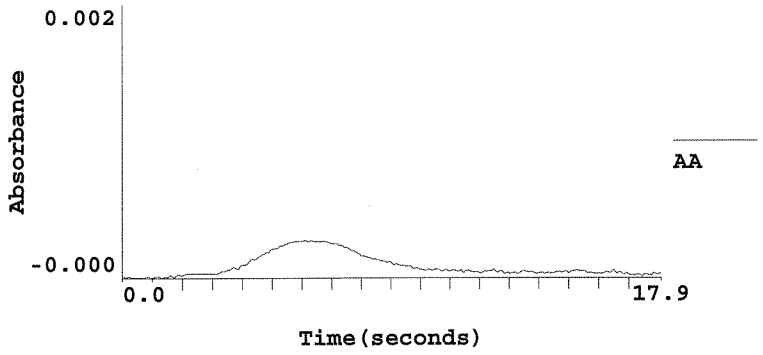
Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.017	-0.017	0.0000	-0.0000	0.0002	13:31:53	Yes



Sequence No.: 16
Sample ID: 1501112-05
Analyst:
Autosampler Location: 24
Date Collected: 2/5/2015 1:31:55 PM
Data Type: Original

Replicate Data: 1501112-05

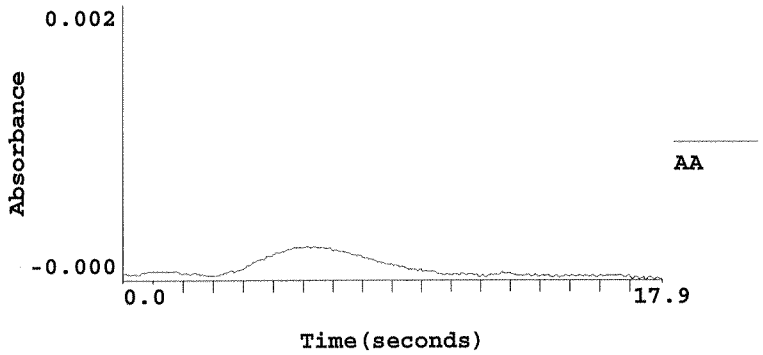
Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.001	-0.001	0.0001	0.0009	0.0002	13:32:46	Yes



Sequence No.: 17
Sample ID: 1501112-06
Analyst:
Autosampler Location: 25
Date Collected: 2/5/2015 1:32:47 PM
Data Type: Original

Replicate Data: 1501112-06

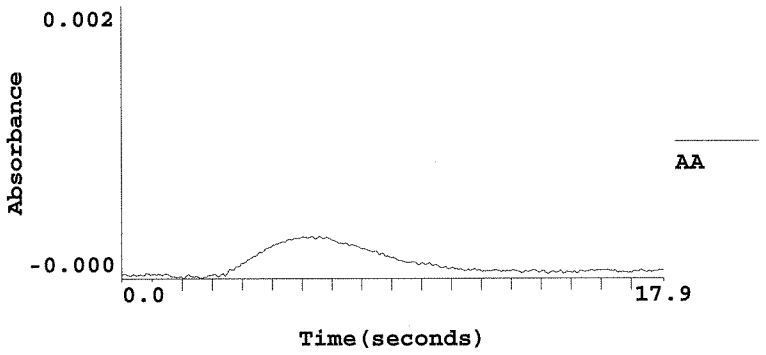
Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.013	-0.013	0.0001	0.0005	0.0002	13:33:38	Yes



Sequence No.: 18
Sample ID: 1501112-07
Analyst:
Autosampler Location: 26
Date Collected: 2/5/2015 1:33:39 PM
Data Type: Original

Replicate Data: 1501112-07

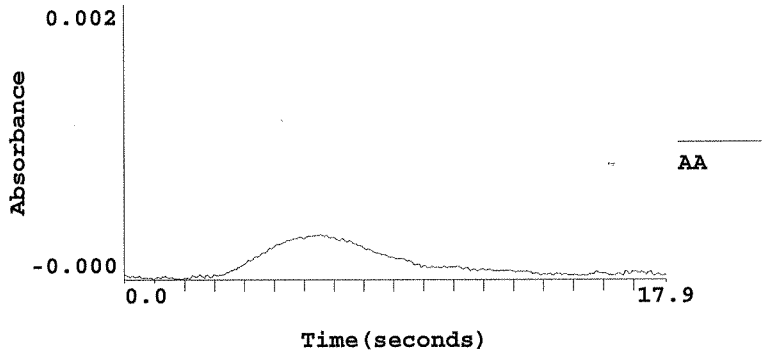
Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.007	0.007	0.0002	0.0012	0.0003	13:34:30	Yes



Sequence No.: 19 Autosampler Location: 27
Sample ID: 1501112-08 Date Collected: 2/5/2015 1:34:50 PM
Analyst: Data Type: Original

Replicate Data: 1501112-08

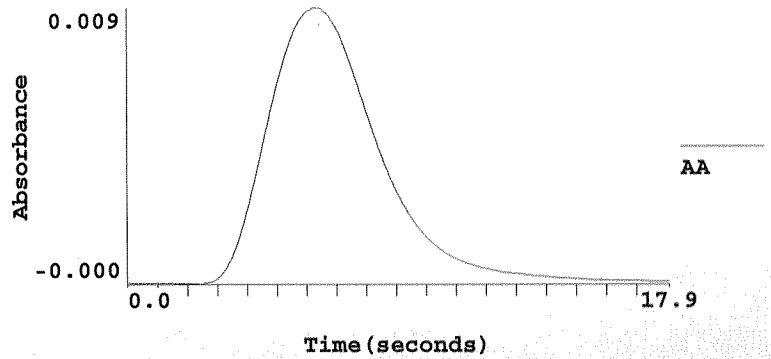
Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.012	0.012	0.0002	0.0013	0.0003	13:35:44	Yes



Sequence No.: 20 Autosampler Location: 28
Sample ID: 5B04018-MS1 Date Collected: 2/5/2015 1:36:05 PM
Analyst: Data Type: Original

Replicate Data: 5B04018-MS1

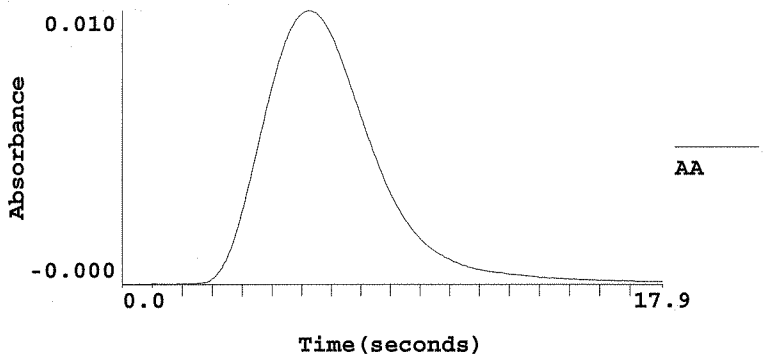
Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	2.108	2.108	0.0092	0.0392	0.0093	13:36:59	Yes



Sequence No.: 21
Sample ID: 5B04018-MSD1
Analyst:
Autosampler Location: 29
Date Collected: 2/5/2015 1:37:20 PM
Data Type: Original

Replicate Data: 5B04018-MSD1

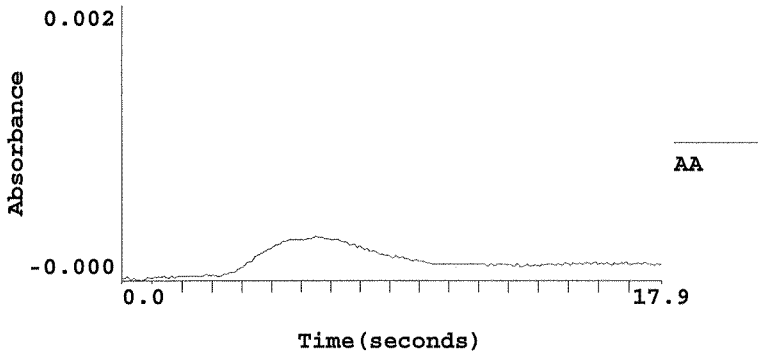
Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	2.171	2.171	0.0094	0.0402	0.0095	13:38:15	Yes



Sequence No.: 22
Sample ID: 1501113-01
Analyst:
Autosampler Location: 30
Date Collected: 2/5/2015 1:38:36 PM
Data Type: Original

Replicate Data: 1501113-01

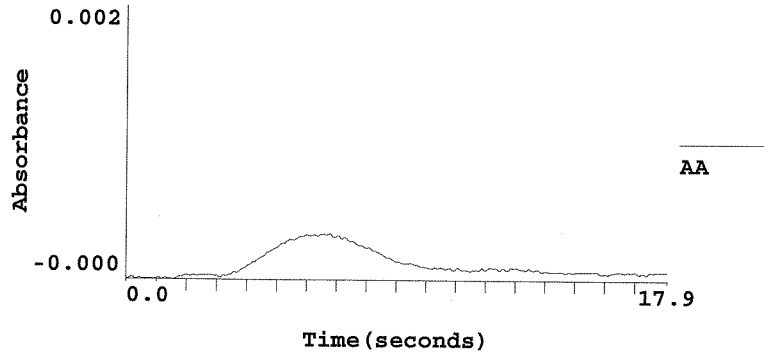
Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.014	0.014	0.0002	0.0021	0.0003	13:39:31	Yes



Sequence No.: 23
Sample ID: 1501114-06
Analyst:
Autosampler Location: 31
Date Collected: 2/5/2015 1:39:52 PM
Data Type: Original

Replicate Data: 1501114-06

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.018	0.018	0.0002	0.0017	0.0003	13:40:47	Yes

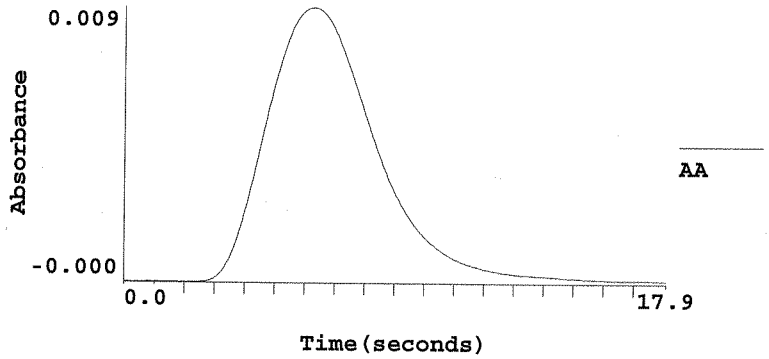


Sequence No.: 24
Sample ID: SEQ-CCV
Analyst:

Autosampler Location: 32
Date Collected: 2/5/2015 1:41:08 PM
Data Type: Original

Replicate Data: SEQ-CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	1.954	1.954	0.0085	0.0363	0.0086	13:41:59	Yes

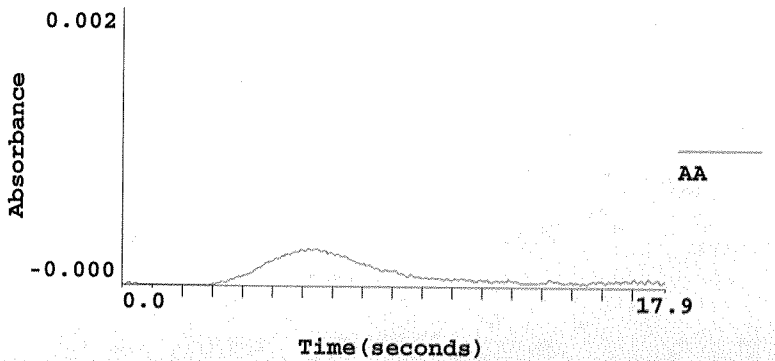


Sequence No.: 25
Sample ID: SEQ-CCB
Analyst:

Autosampler Location: 33
Date Collected: 2/5/2015 1:42:17 PM
Data Type: Original

Replicate Data: SEQ-CCB

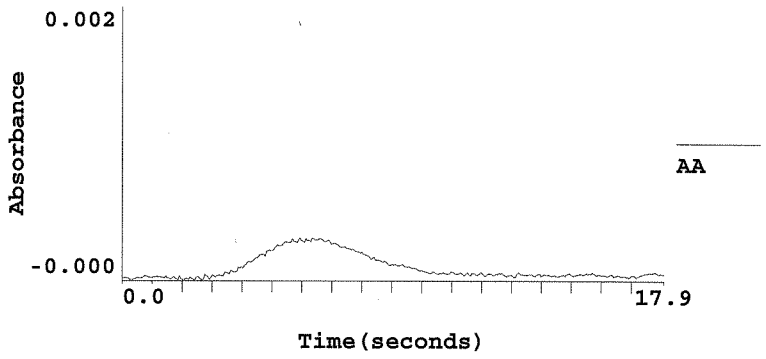
Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.005	0.005	0.0001	0.0013	0.0003	13:43:08	Yes



Sequence No.: 26
Sample ID: 1501122-01
Analyst:
Autosampler Location: 34
Date Collected: 2/5/2015 1:43:26 PM
Data Type: Original

Replicate Data: 1501122-01

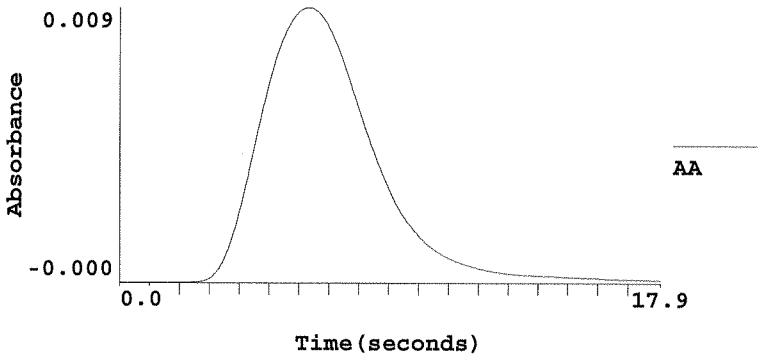
Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.011	0.011	0.0002	0.0013	0.0003	13:44:18	Yes



Sequence No.: 27
Sample ID: 5B04018-MS2
Analyst:
Autosampler Location: 35
Date Collected: 2/5/2015 1:44:36 PM
Data Type: Original

Replicate Data: 5B04018-MS2

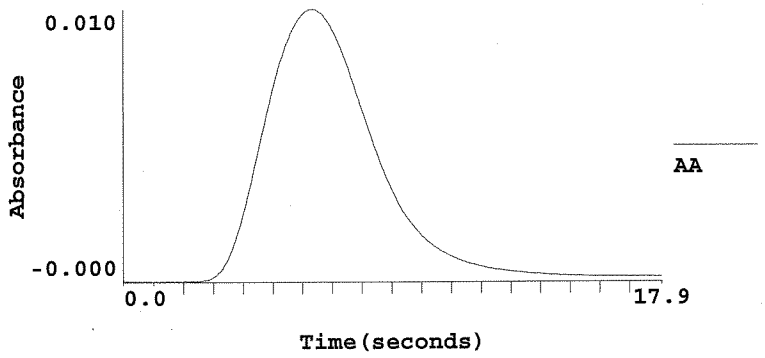
Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	2.113	2.113	0.0092	0.0397	0.0093	13:45:29	Yes



Sequence No.: 28
Sample ID: 5B04018-MSD2
Analyst:
Autosampler Location: 36
Date Collected: 2/5/2015 1:45:47 PM
Data Type: Original

Replicate Data: 5B04018-MSD2

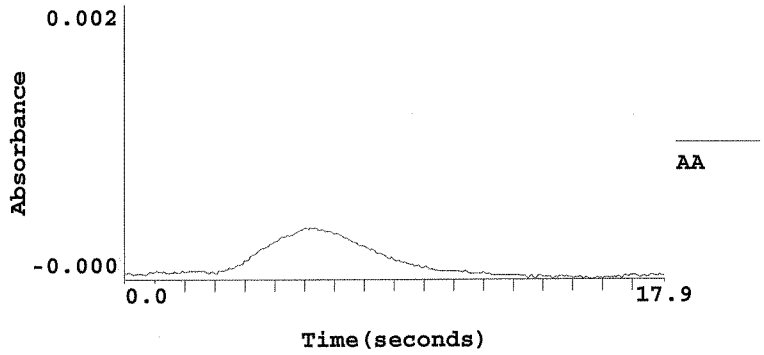
Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	2.231	2.231	0.0097	0.0418	0.0098	13:46:39	Yes



Sequence No.: 29 Autosampler Location: 37
Sample ID: 1501122-02 Date Collected: 2/5/2015 1:46:58 PM
Analyst: Data Type: Original

Replicate Data: 1501122-02

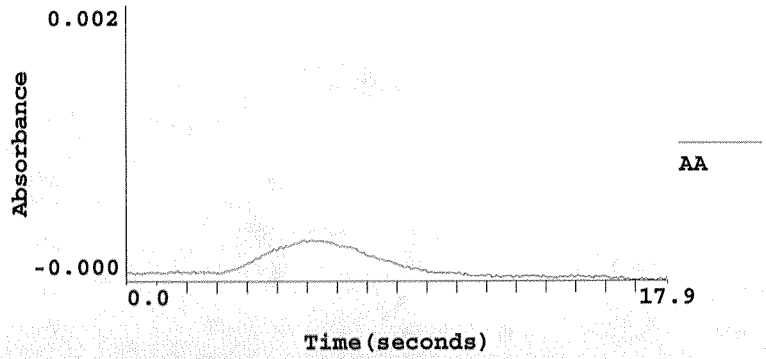
Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.020	0.020	0.0002	0.0010	0.0003	13:47:50	Yes



Sequence No.: 30 Autosampler Location: 38
Sample ID: 1501134-04 Date Collected: 2/5/2015 1:48:09 PM
Analyst: Data Type: Original

Replicate Data: 1501134-04

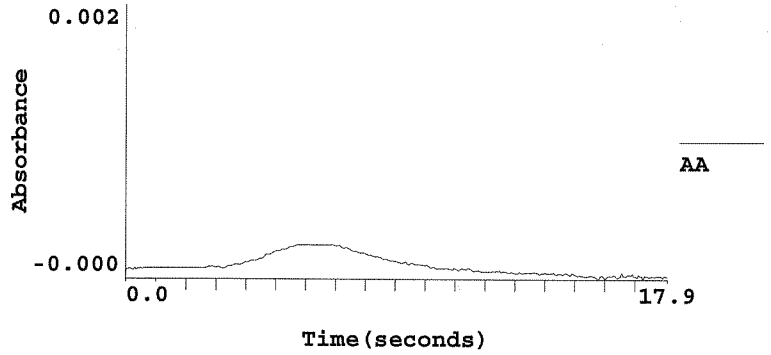
Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.005	-0.005	0.0001	0.0002	0.0002	13:49:02	Yes



Sequence No.: 31
Sample ID: 1501140-02
Analyst:
Autosampler Location: 39
Date Collected: 2/5/2015 1:49:03 PM
Data Type: Original

Replicate Data: 1501140-02

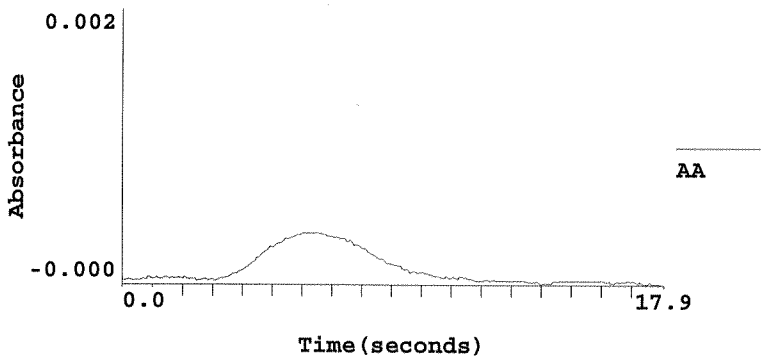
Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.021	-0.021	0.0000	-0.0000	0.0002	13:49:53	Yes



Sequence No.: 32
Sample ID: 1502016-02
Analyst:
Autosampler Location: 40
Date Collected: 2/5/2015 1:49:55 PM
Data Type: Original

Replicate Data: 1502016-02

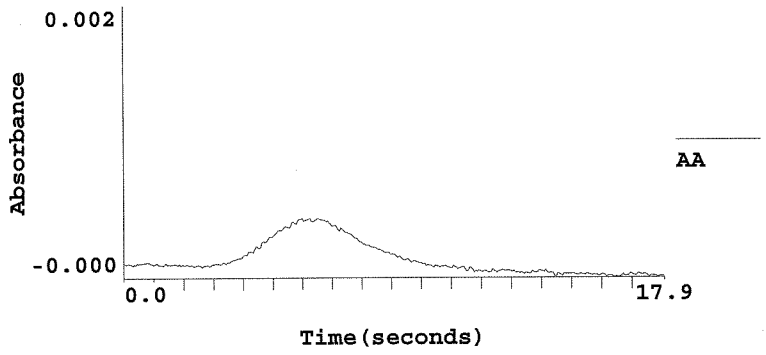
Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.019	0.019	0.0002	0.0009	0.0003	13:50:46	Yes



Sequence No.: 33
Sample ID: 1502025-01
Analyst:
Autosampler Location: 41
Date Collected: 2/5/2015 1:51:06 PM
Data Type: Original

Replicate Data: 1502025-01

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.023	0.023	0.0002	0.0005	0.0003	13:51:59	Yes

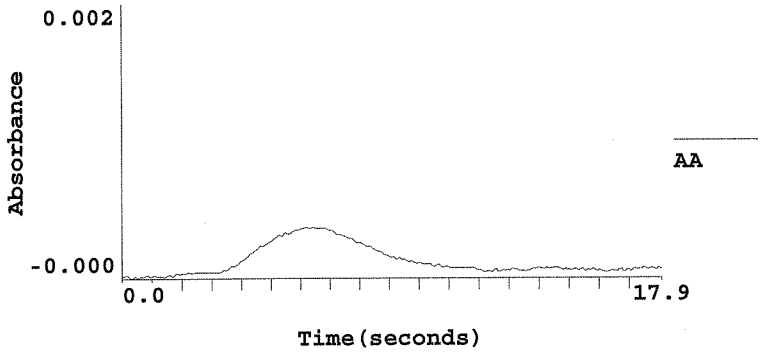


Sequence No.: 34
Sample ID: 1502025-02
Analyst:

Autosampler Location: 42
Date Collected: 2/5/2015 1:52:19 PM
Data Type: Original

Replicate Data: 1502025-02

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.021	0.021	0.0002	0.0015	0.0003	13:53:14	Yes

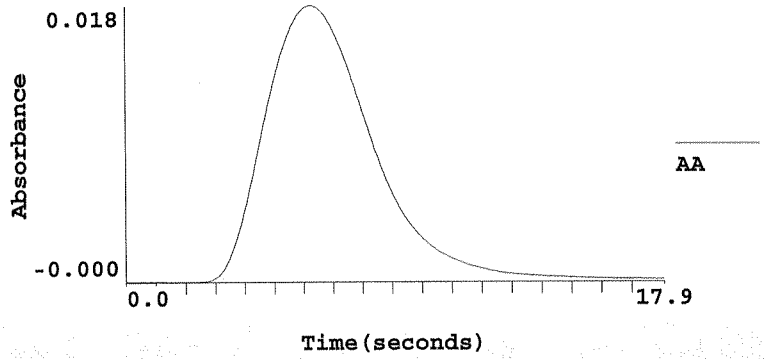


Sequence No.: 35
Sample ID: SEQ-CCV
Analyst:

Autosampler Location: 43
Date Collected: 2/5/2015 1:53:34 PM
Data Type: Original

Replicate Data: SEQ-CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	4.074	4.074	0.0176	0.0741	0.0177	13:54:28	Yes

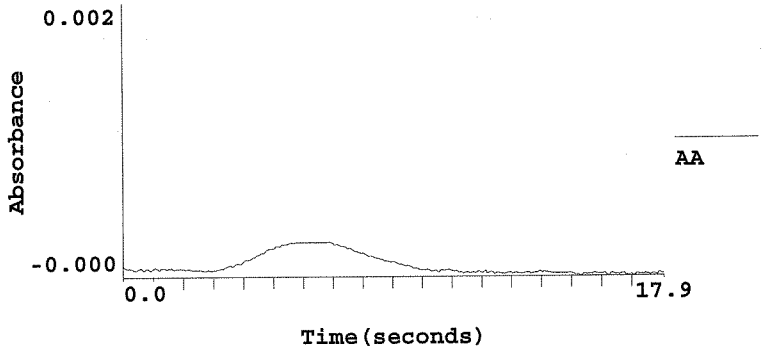


Sequence No.: 36
Sample ID: SEQ-CCB
Analyst:

Autosampler Location: 44
Date Collected: 2/5/2015 1:54:48 PM
Data Type: Original

Replicate Data: SEQ-CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.012	-0.012	0.0001	0.0003	0.0002	13:55:43	Yes



5B0498

Table 1 - Mercury:
Circle Applicable Digestion/Spike and 0.1mL Eppendorf option then staple to bench sheet

Water

Amount	Curve Standards 7470 Water
0.0 mL	
0.03mL	Mercury 1st Source (0.2ug/mL)
0.075mL	Mercury 1st Source (0.2ug/mL)
0.15mL	Mercury 1st Source (0.2ug/mL)
0.30mL	Mercury 1st Source (0.2ug/mL)
0.60mL	Mercury 1st Source (0.2ug/mL)
0.90mL	Mercury 1st Source (0.2ug/mL)
1.5mL	Mercury 1st Source (0.2ug/mL)
	0.1ml Eppendorf 1488972 or 250847 (circle)
	1.0mL Eppendorf 1854694 FJ619163
	~~5mL Finnpipette EH26207~~

Amount	BS/MS/MSD Standards 7470 Water
0.30mL	Mercury 2nd Source (0.2ug/mL)
	1.0mL Eppendorf 1854694
Amount	**Reagents for Digestion Water/TCLP**
1.5mL	H2SO4
0.75mL	HNO3
4.5mL	Potassium Permanganate
2.4mL	Potassium Persulfate

PREPARATION BENCH SHEET

5B02016

Empirical Laboratories, LLC **Printed: 2/19/2015 12:09:52PM**

Instrument:

Matrix: Water **Prepared using: METALS - MET_3005A** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
1501134-04	H	MET_ICP_6010C_FULL	02/02/2015	50	50					NA	;;
1501138-01	K	MET_ICP_6010C_FULL	02/02/2015	50	50					NA	;Ca, Pb, K, Na, Mg;Ca, Pb, K, Na, Mg
1501138-03	K	MET_ICP_6010C_FULL	02/02/2015	50	50					NA	;Ca, Pb, K, Na, Mg;Ca, Pb, K, Na, Mg
1501138-05	K	MET_ICP_6010C_FULL	02/02/2015	50	50					NA	;Ca, Pb, K, Na, Mg;Ca, Pb, K, Na, Mg
1501138-07	AF	MET_ICP_6010C_FULL	02/02/2015	50	50					NA	MS/MSD;Ca, Pb, K, Na, Mg;Ca, Pb, K, Na, Mg
1501138-09	K	MET_ICP_6010C_FULL	02/02/2015	50	50					NA	;Ca, Pb, K, Na, Mg;Ca, Pb, K, Na, Mg
1501138-11	K	MET_ICP_6010C_FULL	02/02/2015	50	50					NA	;Ca, Pb, K, Na, Mg;Ca, Pb, K, Na, Mg
1501138-13	K	MET_ICP_6010C_FULL	02/02/2015	50	50					NA	;Ca, Pb, K, Na, Mg;Ca, Pb, K, Na, Mg
1501138-15	K	MET_ICP_6010C_FULL	02/02/2015	50	50					NA	;Ca, Pb, K, Na, Mg;Ca, Pb, K, Na, Mg
1501138-17	K	MET_ICP_6010C_FULL	02/02/2015	50	50					NA	;Ca, Pb, K, Na, Mg;Ca, Pb, K, Na, Mg
1501138-19	K	MET_ICP_6010C_FULL	02/02/2015	50	50					NA	;Ca, Pb, K, Na, Mg;Ca, Pb, K, Na, Mg
5B02016-BLK1		QC	02/02/2015	50	50					NA	
5B02016-BS1		QC	02/02/2015	50	50	15B0017		50000		NA	
5B02016-DUP1		QC	02/02/2015	50	50		1501138-07			NA	
5B02016-MS1		QC	02/02/2015	50	50	14L0359	1501138-07	50		NA	
5B02016-MSD1		QC	02/02/2015	50	50	14L0359	1501138-07	50		NA	
5B02016-PS1		QC	02/02/2015	20	20	15A0125	1501138-07	20		NA	

PREPARATION BENCH SHEET

5B02016

Empirical Laboratories, LLC **Printed: 2/19/2015 12:09:52PM**

Instrument:

Matrix: Water **Prepared using: METALS - MET_3005A** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)

Reagents Used:

Standard	Description
14G0307	Nitric acid
14H0684	Hydrochloric Acid
14K0220	Metals 50mL Digestion Vessel- DigiTUBE

PREPARATION BENCH SHEET

5B04018

Empirical Laboratories, LLC **Printed: 2/10/2015 3:40:05PM**

Instrument:

Matrix: Water **Prepared using: METALS - pMercury-W SW 7470A** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID		ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
1501095-01	-	MET_TCLP_7470A_Q5	02/05/2015	3	30						NA	;QSM5;QSM5
1501112-02	D	MET_7470A_MERCURY_Q5	02/05/2015	30	30						NA	;QSM5;QSM5
1501112-03	D	MET_7470A_MERCURY_Q5	02/05/2015	30	30						NA	;QSM5;QSM5
1501112-04	D	MET_7470A_MERCURY_Q5	02/05/2015	30	30						NA	;QSM5;QSM5
1501112-05	D	MET_7470A_MERCURY_Q5	02/05/2015	30	30						NA	;QSM5;QSM5
1501112-06	D	MET_7470A_MERCURY_Q5	02/05/2015	30	30						NA	;QSM5;QSM5
1501112-07	D	MET_7470A_MERCURY_Q5	02/05/2015	30	30						NA	;QSM5;QSM5
1501112-08	-	MET_245.1_MERCURY	02/05/2015	30	30						NA	MS/MSD;BatchQC;Added for BatchQC in: 5B04018
1501112-08	K	MET_TCLP_7470A_Q5	02/05/2015	30	30						NA	MS/MSD;BatchQC;Added for BatchQC in: 5B04018
1501112-08	-	MET_TCLP_7470A	02/05/2015	30	30						NA	MS/MSD;BatchQC;Added for BatchQC in: 5B04018
1501112-08	K	MET_7470A_MERCURY_Q5	02/05/2015	30	30						NA	MS/MSD;QSM5;QSM5
1501112-08	-	MET_7470A_DIS_MERCURY	02/05/2015	30	30						NA	MS/MSD;BatchQC;Added for BatchQC in: 5B04018
1501112-08	-	MET_7470A_MERCURY	02/05/2015	30	30						NA	MS/MSD;BatchQC;Added for BatchQC in: 5B04018
1501113-01	D	MET_7470A_MERCURY_Q5	02/05/2015	30	30						NA	;QSM5;QSM5
1501114-06	-	MET_TCLP_7470A	02/05/2015	3	30						NA	;;
1501122-01	-	MET_7470A_MERCURY	02/05/2015	3	30						NA	;BatchQC;Added for BatchQC in: 5B04018
1501122-01	-	MET_245.1_MERCURY	02/05/2015	3	30						NA	;BatchQC;Added for BatchQC in: 5B04018

PREPARATION BENCH SHEET

5B04018

Empirical Laboratories, LLC **Printed: 2/10/2015 3:40:05PM**

Instrument:

Matrix: Water **Prepared using: METALS - pMercury-W SW 7470A** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
1501122-01	-	MET_7470A_MERCURY_Q5	02/05/2015	3	30					NA	;BatchQC;Added for BatchQC in: 5B04018
1501122-01	-	MET_TCLP_7470A	02/05/2015	3	30					NA	;;
1501122-01	-	MET_TCLP_7470A_Q5	02/05/2015	3	30					NA	;BatchQC;Added for BatchQC in: 5B04018
1501122-01	-	MET_7470A_DIS_MERCURY	02/05/2015	3	30					NA	;BatchQC;Added for BatchQC in: 5B04018
1501122-02	-	MET_TCLP_7470A	02/05/2015	3	30					NA	;;
1501134-04	H	MET_7470A_MERCURY	02/05/2015	30	30					NA	;;
1501140-02	D	MET_7470A_MERCURY_Q5	02/05/2015	30	30					NA	;QSM5;QSM5
1502016-02	B	MET_245.1_MERCURY	02/05/2015	30	30					NA	;;
1502025-01	-	MET_7470A_MERCURY	02/05/2015	30	30					NA	;;
1502025-02	-	MET_7470A_DIS_MERCURY	02/05/2015	30	30					NA	Filter in Lab;Filter in Lab;Filter in Lab
5B04018-BLK1		QC	02/05/2015	30	30					NA	
5B04018-BS1		QC	02/05/2015	30	30	14D0359		300		NA	
5B04018-MS1		QC	02/05/2015	3	30	14D0359	1501122-01	300		NA	
5B04018-MS2		QC	02/05/2015	30	30	14D0359	1501112-08	300		NA	
5B04018-MSD1		QC	02/05/2015	3	30	14D0359	1501122-01	300		NA	
5B04018-MSD2		QC	02/05/2015	30	30	14D0359	1501112-08	300		NA	

PREPARATION BENCH SHEET

5B04018

Empirical Laboratories, LLC **Printed: 2/10/2015 3:40:05PM**

Instrument:

Matrix: Water **Prepared using: METALS - pMercury-W SW 7470A** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)

Reagents Used:

Standard	Description
14G0307	Nitric acid
14L0241	Potassuim Persulfate (K2S2O8)
14L0372	Mercury Digestion Flip-Top Tubes
14L0498	Sulfuric Acid
15A0278	Mercury Instrument (FIMS 100) Filters
15A0305	KMNO4 Reagent
15A0306	NAC L-Hydroxylamine Hydrochloride (HG Reagent)
15B0131	Stannous Chloride Mercury Reagent
15B0132	3% HCL Mercury Carrier

Data for Wet Chemistry Forms

Sample Extraction Data

Prep Method: WC_PREP_ANIONS_W-SW9056A

Lab Number [Field ID]	Batch	Nominal Initial/Final	Initial [mL]	Final [mL]	Dilution	% Solids	Notes	Date
1501134-03 [48MW06]	5A30002	5.00/5.00	5.00	5.00	1.00			01/30/15

Sample Extraction Data

Prep Method: pNone-E410.4

Lab Number [Field ID]	Batch	Nominal Initial/Final	Initial [mL]	Final [mL]	Dilution	% Solids	Notes	Date
1501134-04 [ADW01]	5B04004	2.00/2.00	2.00	2.00	1.00			02/04/15

Sample Extraction Data

Prep Method: pNone-SW9040C

Lab Number [Field ID]	Batch	Nominal Initial/Final	Initial [mL]	Final [mL]	Dilution	% Solids	Notes	Date
1501134-04 [ADW01]	5B04011	20.00/20.00	20.0	20.0	1.00			02/04/15

Sample Extraction Data

Prep Method: pNone-SW9060A

Lab Number [Field ID]	Batch	Nominal Initial/Final	Initial [mL]	Final [mL]	Dilution	% Solids	Notes	Date
1501134-03 [48MW06]	5B05019	40.00/40.00	40.0	40.0	1.00			02/05/15

Sample Extraction Data

Prep Method: WC_PREP_ANIONS_W-SW9056A

Lab Number [Field ID]	Batch	Nominal Initial/Final	Initial [mL]	Final [mL]	Dilution	% Solids	Notes	Date
1501134-03RE1 [48MW06]	5B10010	5.00/5.00	5.00	5.00	2.00			02/10/15

ANALYSIS DATA SHEET

48MW06

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
Sampled: 01/29/15 11:35

SDG: 1501134
Project: Radford AAP
Laboratory ID: 1501134-03
Received: 01/30/15 08:35

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
16887-00-6	Chloride	**9.36**	**0.340**	0.660	1.00	2	D	SW9056A	5B10010	02/10/15 14:17
14797-55-8	Nitrate as N	**5.88**	**0.0330**	0.100	0.250	1		SW9056A	5A30002	01/30/15 12:24
14808-79-8	Sulfate as SO4	**275**	**0.660**	2.00	5.00	2	D	SW9056A	5B10010	02/10/15 14:17
7440-44-0	Total Organic Carbon AVG	**1.64**	**1.25**	2.50	3.00	1	J	SW9060A	5B05019	02/05/15 23:11

ANALYSIS DATA SHEET

ADW01

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
Sampled: 01/29/15 12:45

SDG: 1501134
Project: Radford AAP
Laboratory ID: 1501134-04
Received: 01/30/15 08:35

CAS NO.	Analyte	Conc. (pH Units)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
12408-02-5	Laboratory pH	**7.47**	**0.100**	0.100	0.100	1	H3	SW9040C	5B04011	02/04/15 16:17

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
NA	Chemical Oxygen Demand	**23.1**	**20.0**	40.0	60.0	1	J	E410.4	5B04004	02/08/15 16:28

ANALYSIS DATA SHEET

Blank

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Matrix: Water
Laboratory ID: 5A30002-BLK1
% Solids:

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
14797-55-8	Nitrate as N	ND	0.0330	0.100	0.250	1	U	SW9056A	5A30002	01/30/15 11:48

ANALYSIS DATA SHEET

LCS

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
% Solids:

SDG: 1501134
Project: Radford AAP
Laboratory ID: 5A30002-BS1

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
14797-55-8	Nitrate as N	**3.033**	**0.0330**	0.100	0.250	1		SW9056A	5A30002	01/30/15 12:06

ANALYSIS DATA SHEET

Blank

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Matrix: Water
Laboratory ID: 5B04004-BLK1
% Solids:

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
NA	Chemical Oxygen Demand	ND	20.0	40.0	60.0	1	U	E410.4	5B04004	02/08/15 16:13

ANALYSIS DATA SHEET

LCS

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
% Solids:

SDG: 1501134
Project: Radford AAP
Laboratory ID: 5B04004-BS1

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
NA	Chemical Oxygen Demand	**136.7**	**20.0**	40.0	60.0	1		E410.4	5B04004	02/08/15 16:12

ANALYSIS DATA SHEET

LCS

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
% Solids:

SDG: 1501134
Project: Radford AAP
Laboratory ID: 5B04011-BS1

CAS NO.	Analyte	Conc. (pH Units)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
12408-02-5	Laboratory pH	**6.150**	**0.100**	0.100	0.100	1		SW9040C	5B04011	02/04/15 15:53

ANALYSIS DATA SHEET

LCS

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
% Solids:

SDG: 1501134
Project: Radford AAP
Laboratory ID: 5B04011-BS2

CAS NO.	Analyte	Conc. (pH Units)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
12408-02-5	Laboratory pH	**6.120**	**0.100**	0.100	0.100	1		SW9040C	5B04011	02/04/15 16:35

ANALYSIS DATA SHEET

Blank

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
% Solids:

SDG: 1501134
Project: Radford AAP
Laboratory ID: 5B05019-BLK1

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-44-0	Total Organic Carbon AVG	ND	1.25	2.50	3.00	1	U	SW9060A	5B05019	02/05/15 16:51

ANALYSIS DATA SHEET

LCS

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
% Solids:

SDG: 1501134
Project: Radford AAP
Laboratory ID: 5B05019-BS1

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
7440-44-0	Total Organic Carbon AVG	**27.87**	**1.25**	2.50	3.00	1		SW9060A	5B05019	02/05/15 17:22

ANALYSIS DATA SHEET

Blank

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
% Solids:

SDG: 1501134
Project: Radford AAP
Laboratory ID: 5B10010-BLK1

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
16887-00-6	Chloride	ND	0.170	0.330	0.500	1	U	SW9056A	5B10010	02/10/15 12:48
14808-79-8	Sulfate as SO4	ND	0.330	1.00	2.50	1	U	SW9056A	5B10010	02/10/15 12:48

ANALYSIS DATA SHEET

LCS

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Matrix: Water
% Solids:

SDG: 1501134
Project: Radford AAP
Laboratory ID: 5B10010-BS1

CAS NO.	Analyte	Conc. (mg/L)	DL	LOD	LOQ	D.F.	Q	Method	Batch	Analyzed
16887-00-6	Chloride	**4.562**	**0.170**	0.330	0.500	1		SW9056A	5B10010	02/10/15 13:05
14808-79-8	Sulfate as SO4	**22.81**	**0.330**	1.00	2.50	1		SW9056A	5B10010	02/10/15 13:05

INITIAL AND CONTINUING CALIBRATION CHECK

E410.4

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Instrument ID: WC-Gensys

SDG: 1501134
Project: Radford AAP
Calibration: 4302005
Sequence: 4J30210

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
4J30210-ICV1	Chemical Oxygen Demand	144.0	143.4	99.6	mg/L	+/- 10.00%

INITIAL AND CONTINUING CALIBRATION CHECK

SW9056A

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Instrument ID: WC-IC2

SDG: 1501134
Project: Radford AAP
Calibration: 4351002
Sequence: 4L35114

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
4L35114-ICV1	Chloride	4.200	4.198	100	mg/L	+/- 10.00%
	Nitrate as N	3.164	3.141	99.3	mg/L	+/- 10.00%
	Sulfate as SO4	21.00	22.77	108	mg/L	+/- 10.00%

INITIAL AND CONTINUING CALIBRATION CHECK

SW9056A

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Instrument ID: WC-IC2

SDG: 1501134
Project: Radford AAP
Calibration: 4351002
Sequence: 5B03405

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
5B03405-CCV1	Nitrate as N	2.500	2.540	102	mg/L	+/- 10.00%
5B03405-CCV2	Nitrate as N	2.500	2.553	102	mg/L	+/- 10.00%

INITIAL AND CONTINUING CALIBRATION CHECK

E410.4

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Instrument ID: WC-Gensys

SDG: 1501134
Project: Radford AAP
Calibration: 4302005
Sequence: 5B03901

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
5B03901-CCV1	Chemical Oxygen Demand	100.0	103.2	103	mg/L	+/- 10.00%
5B03901-CCV2	Chemical Oxygen Demand	400.0	411.7	103	mg/L	+/- 10.00%
5B03901-CCV3	Chemical Oxygen Demand	100.0	101.0	101	mg/L	+/- 10.00%

INITIAL AND CONTINUING CALIBRATION CHECK

SW9060A

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Instrument ID: WC-TOC1

SDG: 1501134
Project: Radford AAP
Calibration: 5023004
Sequence: 5B04116

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
5B04116-CCV1	Total Organic Carbon AVG	25.00	28.31	113	mg/L	+/- 20.00%
5B04116-CCV2	Total Organic Carbon AVG	50.00	57.11	114	mg/L	+/- 20.00%
5B04116-CCV3	Total Organic Carbon AVG	25.00	24.08	96.3	mg/L	+/- 20.00%

INITIAL AND CONTINUING CALIBRATION CHECK

SW9056A

Laboratory: Empirical Laboratories, LLC
Client: CB&I
Instrument ID: WC-IC2

SDG: 1501134
Project: Radford AAP
Calibration: 4351002
Sequence: 5B04401

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
5B04401-CCV1	Chloride	25.00	24.89	99.6	mg/L	+/- 10.00%
	Sulfate as SO4	25.00	27.26	109	mg/L	+/- 10.00%
5B04401-CCV2	Chloride	25.00	25.13	101	mg/L	+/- 10.00%
	Sulfate as SO4	25.00	27.37	109	mg/L	+/- 10.00%

CRDL STANDARD

SW9056A

Laboratory: Empirical Laboratories, LLC

SDG: 1501134

Client: CB&I

Project: Radford AAP

Instrument ID: WC-IC2

Calibration: 4351002

Sequence: 5B03405

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
5B03405-CRL1	Nitrate as N	0.05000	0.04400	88.0	mg/L	50 - 150

CRDL STANDARD

SW9056A

Laboratory: Empirical Laboratories, LLC

SDG: 1501134

Client: CB&I

Project: Radford AAP

Instrument ID: WC-IC2

Calibration: 4351002

Sequence: 5B04401

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
5B04401-CRL1	Chloride	0.5000	0.5051	101	mg/L	50 - 150
	Sulfate as SO4	0.5000	0.5343	107	mg/L	50 - 150

METHOD BLANKS
SW9056A

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Batch: 5A30002

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
5A30002-BLK1	Nitrate as N	0.00220	0.0330	0.250	mg/L	U	SW9056A

METHOD BLANKS

E410.4

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Batch: 5B04004

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
5B04004-BLK1	Chemical Oxygen Demand	-6.35	20.0	60.0	mg/L	U	E410.4

METHOD BLANKS

SW9060A

Laboratory: Empirical Laboratories, LLC

SDG: 1501134

Client: CB&I

Project: Radford AAP

Batch: 5B05019

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
5B05019-BLK1	Total Organic Carbon AVG	0.118	1.25	3.00	mg/L	U	SW9060A

METHOD BLANKS
SW9056A

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Batch: 5B10010

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
5B10010-BLK1	Chloride	0.0358	0.170	0.500	mg/L	U	SW9056A
	Sulfate as SO4	0.00680	0.330	2.50	mg/L	U	SW9056A

BLANKS
E410.4

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Sequence: 4J30210
Calibration: 4302005
Instrument ID: WC-Gensys

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
4J30210-ICB1	Chemical Oxygen Demand	-1.882	20.0	60.0	mg/L	U	E410.4

BLANKS
SW9056A

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Sequence: 5B03405
Calibration: 4351002
Instrument ID: WC-IC2

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
5B03405-CCB1	Nitrate as N	0.00170	0.0330	0.250	mg/L	U	SW9056A
5B03405-CCB2	Nitrate as N	0.00170	0.0330	0.250	mg/L	U	SW9056A

BLANKS
E410.4

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Sequence: 5B03901
Calibration: 4302005
Instrument ID: WC-Gensys

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
5B03901-CCB1	Chemical Oxygen Demand	-6.35	20.0	60.0	mg/L	U	E410.4
5B03901-CCB2	Chemical Oxygen Demand	-4.12	20.0	60.0	mg/L	U	E410.4
5B03901-CCB3	Chemical Oxygen Demand	-4.12	20.0	60.0	mg/L	U	E410.4

BLANKS
SW9060A

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Sequence: 5B04116
Calibration: 5023004
Instrument ID: WC-TOC1

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
5B04116-CCB1	Total Organic Carbon AVG	0.142	1.25	3.00	mg/L	U	SW9060A
5B04116-CCB2	Total Organic Carbon AVG	0.126	1.25	3.00	mg/L	U	SW9060A
5B04116-CCB3	Total Organic Carbon AVG	0.118	1.25	3.00	mg/L	U	SW9060A

BLANKS
SW9056A

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Sequence: 5B04401
Calibration: 4351002
Instrument ID: WC-IC2

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C	Method
5B04401-CCB1	Chloride	0.0150	0.170	0.500	mg/L	U	SW9056A
	Sulfate as SO4	0.0146	0.330	2.50	mg/L	U	SW9056A
5B04401-CCB2	Chloride	0.0253	0.170	0.500	mg/L	U	SW9056A
	Sulfate as SO4	0.0344	0.330	2.50	mg/L	U	SW9056A

LCS / LCS DUPLICATE RECOVERY

SW9056A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134
Client:	CB&I	Project:	Radford AAP
Matrix:	Water		
Batch:	5A30002	Laboratory ID:	5A30002-BS1
Preparation:	WC_PREP_ANIONS_W	Initial/Final:	5 mL / 5 mL

ANALYTE	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC.	QC LIMITS REC.
Nitrate as N	3.164	3.033	95.9	80 - 120

LCS / LCS DUPLICATE RECOVERY

E410.4

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134
Client:	CB&I	Project:	Radford AAP
Matrix:	Water		
Batch:	5B04004	Laboratory ID:	5B04004-BS1
Preparation:	pNone	Initial/Final:	2 mL / 2 mL

ANALYTE	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC.	QC LIMITS REC.
Chemical Oxygen Demand	144.0	136.7	95.0	90 - 110

LCS / LCS DUPLICATE RECOVERY

SW9040C

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134
Client:	CB&I	Project:	Radford AAP
Matrix:	Water		
Batch:	5B04011	Laboratory ID:	5B04011-BS1
Preparation:	pNone	Initial/Final:	20 mL / 20 mL

ANALYTE	SPIKE ADDED (pH Units)	LCS CONCENTRATION (pH Units)	LCS % REC.	QC LIMITS REC.
Laboratory pH	6.210	6.150	99.0	80 - 120

LCS / LCS DUPLICATE RECOVERY

SW9040C

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134
Client:	CB&I	Project:	Radford AAP
Matrix:	Water		
Batch:	5B04011	Laboratory ID:	5B04011-BS2
Preparation:	pNone	Initial/Final:	20 mL / 20 mL

ANALYTE	SPIKE ADDED (pH Units)	LCS CONCENTRATION (pH Units)	LCS % REC.	QC LIMITS REC.
Laboratory pH	6.210	6.120	98.6	80 - 120

LCS / LCS DUPLICATE RECOVERY

SW9060A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134
Client:	CB&I	Project:	Radford AAP
Matrix:	Water		
Batch:	5B05019	Laboratory ID:	5B05019-BS1
Preparation:	pNone	Initial/Final:	40 mL / 40 mL

ANALYTE	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC.	QC LIMITS REC.
Total Organic Carbon AVG	25.00	27.87	111	80 - 120

LCS / LCS DUPLICATE RECOVERY

SW9056A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134
Client:	CB&I	Project:	Radford AAP
Matrix:	Water		
Batch:	5B10010	Laboratory ID:	5B10010-BS1
Preparation:	WC_PREP_ANIONS_W	Initial/Final:	5 mL / 5 mL

ANALYTE	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC.	QC LIMITS REC.
Chloride	4.200	4.562	109	80 - 120
Sulfate as SO4	21.00	22.81	109	80 - 120

PREPARATION BATCH SUMMARY

SW9056A

Laboratory: Empirical Laboratories, LLC SDG: 1501134

Client: CB&I Project: Radford AAP

Batch: 5A30002 Batch Matrix: Water Preparation: WC_PREP_ANIONS_W

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
48MW06	1501134-03	01/30/15 09:41	5.00	5.00
Blank	5A30002-BLK1	01/30/15 09:41	5.00	5.00
LCS	5A30002-BS1	01/30/15 09:41	5.00	5.00

PREPARATION BATCH SUMMARY

E410.4

Laboratory: Empirical Laboratories, LLC SDG: 1501134

Client: CB&I Project: Radford AAP

Batch: 5B04004 Batch Matrix: Water Preparation: pNone

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
ADW01	1501134-04	02/04/15 08:15	2.00	2.00
Blank	5B04004-BLK1	02/04/15 08:15	2.00	2.00
LCS	5B04004-BS1	02/04/15 08:15	2.00	2.00

PREPARATION BATCH SUMMARY

SW9040C

Laboratory: Empirical Laboratories, LLC SDG: 1501134

Client: CB&I Project: Radford AAP

Batch: 5B04011 Batch Matrix: Water Preparation: pNone

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
ADW01	1501134-04	02/04/15 11:16	20.00	20.00
LCS	5B04011-BS1	02/04/15 11:16	20.00	20.00
LCS	5B04011-BS2	02/04/15 11:16	20.00	20.00

PREPARATION BATCH SUMMARY

SW9060A

Laboratory: Empirical Laboratories, LLC SDG: 1501134

Client: CB&I Project: Radford AAP

Batch: 5B05019 Batch Matrix: Water Preparation: pNone

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
48MW06	1501134-03	02/05/15 14:56	40.00	40.00
Blank	5B05019-BLK1	02/05/15 14:56	40.00	40.00
LCS	5B05019-BS1	02/05/15 14:56	40.00	40.00

PREPARATION BATCH SUMMARY

SW9056A

Laboratory: Empirical Laboratories, LLC SDG: 1501134

Client: CB&I Project: Radford AAP

Batch: 5B10010 Batch Matrix: Water Preparation: WC_PREP_ANIONS_W

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
48MW06	1501134-03RE1	02/10/15 10:10	5.00	5.00
Blank	5B10010-BLK1	02/10/15 10:10	5.00	5.00
LCS	5B10010-BS1	02/10/15 10:10	5.00	5.00

ANALYSIS SEQUENCE SUMMARY

SW9040C

Laboratory: Empirical Laboratories, LLC

SDG: 1501134

Client: CB&I

Project: Radford AAP

Sequence:

Instrument:

Calibration:

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
LCS	5B04011-BS1		02/04/15 15:53
LCS	5B04011-BS2		02/04/15 16:35

ANALYSIS SEQUENCE SUMMARY

E410.4

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134
Client:	CB&I	Project:	Radford AAP
Sequence:	4J30210	Instrument:	WC-Gensys
Calibration:	4302005		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	4J30210-CAL1	102914-001	10/29/14 11:59
Cal Standard	4J30210-CAL2	102914-002	10/29/14 12:00
Cal Standard	4J30210-CAL3	102914-003	10/29/14 12:01
Cal Standard	4J30210-CAL4	102914-004	10/29/14 12:02
Cal Standard	4J30210-CAL5	102914-005	10/29/14 12:03
Cal Standard	4J30210-CAL6	102914-006	10/29/14 12:04
Cal Standard	4J30210-CAL7	102914-007	10/29/14 12:05
Initial Cal Check	4J30210-ICV1	102914-008	10/29/14 12:06
Initial Cal Blank	4J30210-ICB1	102914-009	10/29/14 12:07

ANALYSIS SEQUENCE SUMMARY

SW9056A

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Sequence: 4L35114
Instrument: WC-IC2
Calibration: 4351002

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	4L35114-CAL1	SEQ-CAL1_Integration	12/16/14 09:47
Cal Standard	4L35114-CAL2	SEQ-CAL2_Integration	12/16/14 10:05
Cal Standard	4L35114-CAL3	SEQ-CAL3_Integration	12/16/14 10:23
Cal Standard	4L35114-CAL4	SEQ-CAL4_Integration	12/16/14 10:41
Cal Standard	4L35114-CAL5	SEQ-CAL5_Integration	12/16/14 10:59
Cal Standard	4L35114-CAL6	SEQ-CAL6_Integration	12/16/14 11:16
Cal Standard	4L35114-CAL7	SEQ-CAL7_Integration	12/16/14 11:34
Cal Standard	4L35114-CAL8	SEQ-CAL8_Integration	12/16/14 11:52
Initial Cal Check	4L35114-ICV1	SEQ-ICV1_Integration	12/16/14 13:43

ANALYSIS SEQUENCE SUMMARY

SW9060A

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Sequence: 5A02308
Instrument: WC-TOC1
Calibration: 5023004

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	5A02308-CAL1		01/19/15 11:53
Cal Standard	5A02308-CAL2		01/19/15 12:14
Cal Standard	5A02308-CAL3		01/19/15 12:36
Cal Standard	5A02308-CAL4		01/19/15 12:58
Cal Standard	5A02308-CAL5		01/19/15 13:22
Cal Standard	5A02308-CAL6		01/19/15 13:46
Cal Standard	5A02308-CAL7		01/19/15 14:09
Cal Standard	5A02308-CAL8		01/19/15 14:37

ANALYSIS SEQUENCE SUMMARY

SW9056A

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Sequence: 5B03405
Instrument: WC-IC2
Calibration: 4351002

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	5B03405-CCV1	SEQ-CCV1_Integration	01/30/15 10:19
Calibration Blank	5B03405-CCB1	SEQ-CCB1_Integration	01/30/15 10:37
Instrument RL Check	5B03405-CRL1	SEQ-CRL1_Integration	01/30/15 10:55
Blank	5A30002-BLK1	5A30002-BLK1_Integration	01/30/15 11:48
LCS	5A30002-BS1	5A30002-BS1_Integration	01/30/15 12:06
48MW06	1501134-03	1501134-03_Integration	01/30/15 12:24
Calibration Check	5B03405-CCV2	SEQ-CCV2_Integration	01/30/15 16:16
Calibration Blank	5B03405-CCB2	SEQ-CCB2_Integration	01/30/15 16:34

ANALYSIS SEQUENCE SUMMARY

E410.4

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134
Client:	CB&I	Project:	Radford AAP
Sequence:	5B03901	Instrument:	WC-Gensys
Calibration:	4302005		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	5B03901-CCV1	020415-001	02/08/15 16:10
Calibration Blank	5B03901-CCB1	020415-002	02/08/15 16:11
LCS	5B04004-BS1	020415-003	02/08/15 16:12
Blank	5B04004-BLK1	020415-004	02/08/15 16:13
Calibration Check	5B03901-CCV2	020415-016	02/08/15 16:25
Calibration Blank	5B03901-CCB2	020415-017	02/08/15 16:26
ADW01	1501134-04	020415-019	02/08/15 16:28
Calibration Check	5B03901-CCV3	020415-021	02/08/15 16:29
Calibration Blank	5B03901-CCB3	020415-022	02/08/15 16:30

ANALYSIS SEQUENCE SUMMARY

SW9060A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134
Client:	CB&I	Project:	Radford AAP
Sequence:	5B04116	Instrument:	WC-TOC1
Calibration:	5023004		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	5B04116-CCV1	02-05-15Q	02/05/15 16:07
Calibration Blank	5B04116-CCB1	02-05-15Q	02/05/15 16:29
Blank	5B05019-BLK1	02-05-15Q	02/05/15 16:51
LCS	5B05019-BS1	02-05-15Q	02/05/15 17:22
Calibration Check	5B04116-CCV2	02-05-15Q	02/05/15 22:23
Calibration Blank	5B04116-CCB2	02-05-15Q	02/05/15 22:47
48MW06	1501134-03	02-05-15Q	02/05/15 23:11
Calibration Check	5B04116-CCV3	02-05-15Q	02/06/15 02:20
Calibration Blank	5B04116-CCB3	02-05-15Q	02/06/15 02:44

ANALYSIS SEQUENCE SUMMARY

SW9056A

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Sequence: 5B04401
Instrument: WC-IC2
Calibration: 4351002

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	5B04401-CCV1	SEQ-CCV1_Integration	02/10/15 11:18
Calibration Blank	5B04401-CCB1	SEQ-CCB1_Integration	02/10/15 11:36
Instrument RL Check	5B04401-CRL1	SEQ-CRL1_Integration	02/10/15 11:54
Blank	5B10010-BLK1	5B10010-BLK1_Integration	02/10/15 12:48
LCS	5B10010-BS1	5B10010-BS1_Integration	02/10/15 13:05
48MW06	1501134-03RE1	501134-03RE1@2X_Integratio	02/10/15 14:17
Calibration Check	5B04401-CCV2	SEQ-CCV2_Integration	02/10/15 17:15
Calibration Blank	5B04401-CCB2	SEQ-CCB2_Integration	02/10/15 17:33

INITIAL CALIBRATION DATA

E410.4

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134	
Client:	CB&I	Project:	Radford AAP	
Calibration:	4302005	Instrument:	WC-Gensys	
Matrix:	Water	Calibration Dates:	10/29/14 11:59	10/29/14 12:05

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Chemical Oxygen Demand	0	0	20	0.00045	40	0.000475	80	0.00045	100	0.00049	400	0.000475

INITIAL CALIBRATION DATA (Continued)

E410.4

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134	
Client:	CB&I	Project:	Radford AAP	
Calibration:	4302005	Instrument:	WC-Gensys	
Matrix:	Water	Calibration Dates:	10/29/14 11:59	10/29/14 12:05

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Chemical Oxygen Demand	800	4.4375E-04										

INITIAL CALIBRATION DATA (Continued)

E410.4

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134	
Client:	CB&I	Project:	Radford AAP	
Calibration:	4302005	Instrument:	WC-Gensys	
Matrix:	Water	Calibration Dates:	10/29/14 11:59	10/29/14 12:05

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Chemical Oxygen Demand	3.976786E-04	44.30091	0	0	0.99878		0.995	

Per current DoD QSM requirements, effective 03/17/2014, Empirical has updated the linear calibration coefficient requirements to reflect a limit of 0.990 for "r2" rather than the previously reported limit of 0.995 for "r". The change in assessment criteria is consistent with regulatory requirements.

INITIAL CALIBRATION DATA

SW9056A

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Calibration: 4351002
Instrument: WC-IC2
Matrix: Water
Calibration Dates: 12/16/14 9:47 12/16/14 11:52

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Bromide	0.126	0.1085905	0.252	0.1108726	0.63	0.1180673	1.26	0.1237546	6.3	0.1299016	12.6	0.1302967
Chloride	0.5	0.3003194	1	0.2984897	2.5	0.3053954	5	0.3078736	25	0.3040147	50	0.3022272
Fluoride	0.05	0.489534	0.1	0.493946	0.25	0.5097388	0.5	0.5311596	2.5	0.5045864	5	0.4840282
Sulfate as SO4	0.5	0.209077	1	0.2078992	2.5	0.2136142	5	0.2170974	25	0.2157216	50	0.2141794
Nitrate as N	0.05	0.674878	0.1	0.666766	0.25	0.6984688	0.5	0.7243688	2.5	0.7440152	5	0.7440886
Nitrite as N	0.05	0.656516	0.1	0.664483	0.25	0.695526	0.5	0.7044518	2.5	0.6747124	5	0.6583138

INITIAL CALIBRATION DATA (Continued)

SW9056A

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Calibration: 4351002
Instrument: WC-IC2
Matrix: Water
Calibration Dates: 12/16/14 9:47 12/16/14 11:52

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Bromide	31.5	0.1283104	63	~~0.110431~~								
Chloride	125	0.301513	250	0.3010025								
Fluoride	12.5	~~0.4445155~~	25	~~0.4043972~~								
Sulfate as SO4	125	0.2117641	250	0.1998974								
Nitrate as N	12.5	0.7445325	25	0.7354732								
Nitrite as N	12.5	~~0.6231667~~	25	~~0.5849232~~								

INITIAL CALIBRATION DATA (Continued)

SW9056A

Laboratory: Empirical Laboratories, LLC
SDG: 1501134
Client: CB&I
Project: Radford AAP
Calibration: 4351002
Instrument: WC-IC2
Matrix: Water
Calibration Dates: 12/16/14 9:47 12/16/14 11:52

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Bromide	0.1213991	7.449655	8.731428	0.6244358	0.9999458		0.995	
Chloride	0.3026044	0.9960588	4.981625	0.3698484	0.9999975		0.995	
Fluoride	0.5021655	3.402805	3.305333	0.1072065	0.9994431		0.995	
Sulfate as SO4	0.2111563	2.614724	9.39875	2.737571	0.9990053		0.995	
Nitrate as N	0.7165739	4.493295	10.39125	1.665896	0.9999603		0.995	
Nitrite as N	0.6756672	2.972466	6.139833	5.826773E-02	0.9997826		0.995	

Per current DoD QSM requirements, effective 03/17/2014, Empirical has updated the linear calibration coefficient requirements to reflect a limit of 0.990 for "r2" rather than the previously reported limit of 0.995 for "r". The change in assessment criteria is consistent with regulatory requirements.

INITIAL CALIBRATION DATA

SW9060A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134	
Client:	CB&I	Project:	Radford AAP	
Calibration:	5023004	Instrument:	WC-TOC1	
Matrix:	Water	Calibration Dates:	1/19/15 11:53	1/19/15 14:37

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Total Organic Carbon	0	0	1	11.73	2.5	10.716	5	10.326	10	10.82	25	10.928

INITIAL CALIBRATION DATA (Continued)

SW9060A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134	
Client:	CB&I	Project:	Radford AAP	
Calibration:	5023004	Instrument:	WC-TOC1	
Matrix:	Water	Calibration Dates:	1/19/15 11:53	1/19/15 14:37

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF	mg/L	RF
Total Organic Carbon	50	11.194	100	11.59								

INITIAL CALIBRATION DATA (Continued)

SW9060A

Laboratory:	Empirical Laboratories, LLC	SDG:	1501134	
Client:	CB&I	Project:	Radford AAP	
Calibration:	5023004	Instrument:	WC-TOC1	
Matrix:	Water	Calibration Dates:	1/19/15 11:53	1/19/15 14:37

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Total Organic Carbon	9.663	40.68495			0.9996185		0.99	

Per current DoD QSM requirements, effective 03/17/2014, Empirical has updated the linear calibration coefficient requirements to reflect a limit of 0.990 for "r2" rather than the previously reported limit of 0.995 for "r". The change in assessment criteria is consistent with regulatory requirements.

HOLDING TIME SUMMARY

E410.4

Laboratory: Empirical Laboratories, LLC SDG: 1501134

Client: CB&I Project: Radford AAP

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
ADW01	01/29/15 12:45	01/30/15 08:35	02/04/15 08:15	N/A	28.00	02/08/15 16:28	10.20	28.00	

HOLDING TIME SUMMARY

SW9040C

Laboratory: Empirical Laboratories, LLC SDG: 1501134

Client: CB&I Project: Radford AAP

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
ADW01	01/29/15 12:45	01/30/15 08:35	02/04/15 11:16	N/A	0.01	02/04/15 16:17	6.19	0.01	*

HOLDING TIME SUMMARY

SW9056A

Laboratory: Empirical Laboratories, LLC SDG: 1501134

Client: CB&I Project: Radford AAP

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
48MW06	01/29/15 11:35	01/30/15 08:35	01/30/15 09:41	N/A	2.00	01/30/15 12:24	1.08	2.00	
48MW06	01/29/15 11:35	01/30/15 08:35	02/10/15 10:10	N/A	28.00	02/10/15 14:17	12.15	28.00	

HOLDING TIME SUMMARY

SW9060A

Laboratory: Empirical Laboratories, LLC SDG: 1501134

Client: CB&I Project: Radford AAP

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
48MW06	01/29/15 11:35	01/30/15 08:35	02/05/15 14:56	N/A	28.00	02/05/15 23:11	7.53	28.00	

Data for Wet Chemistry Supporting Raw Data / Logs

Electrometric Determination of pH

Client(s): EMPIRICAL, CH2M, STANLEY, CB&I, ASIG

Empirical Laboratories

Date: 2/4/2015

Analyst: KLG

Method Reference: 150.1, 4500-H^+B, 9040B/C,9045C/D

Analyst Authorization: K-H

BATCH: 5B04011

Calibration 10.00/12.00 Slope: 99.5

Calibration 7.00/10.00 Slope: 94.5

Acceptable range = (92-102)

Lab No.	Client	Field ID	Cal. Stand.	Matrix	Wt./Vol.	Units	Time	pH	Temp. (°C)	pH 7.0 +/- 0.09	Method Number
5B04011-BS1	QC	15B0092 TV-6.21	7.00/10.00	WATER	20		15:53	6.15	23.7	7	9040C
1501053-02	EMPIRICAL		7.00/10.00	WATER	20		16:00	7.19	22.5	7.01	9040C
1501108-01	CH2M		10.00/12.00	WATER	20		16:03	11.87	20.7	7	CORR
1501109-01	STANLEY		7.00/10.00	WATER	20		16:10	8.65	23.3	7.02	9040C
1501134-04	CB&I		7.00/10.00	WATER	20		16:17	7.47	21.6	7.04	9040C
1502003-01	ASIG		7.00/10.00	WATER	20		16:21	7.18	22.8	7.05	9040C
5B04011-DUP1	QC	1501109-01	7.00/10.00	WATER	20		16:27	8.73	23.4	7.06	9040C
5B04011-BS2	QC	15B0092 TV-6.21	10.00/12.00	WATER	20		16:35	6.12	23.4	7	CORR

2nd vBLQ
2/5/15

Chemical Oxygen Demand (COD)

Empirical Laboratories

Client(s): TETRA TECH, ONSITE

Curve Date: 10/29/2014
CURVE AGE IS <6 MONTHS
Correlation: 0.998202017
Calibration ID: 4302005
Wavelentgh = 620 nm
Detection Limit = 20 mg/L

Standard ID	mg/L	ABS
14D0494	0	-0.001
14D0450	20	0.009
14D0452	40	0.019
14D0456	80	0.036
14D0457	100	0.049
14D0459	400	0.190
14D0460	800	0.355

COD Block Temp.
(150±2°C): 150

QC Criteria
BS Recovery: 90%-110%
Calibration Standard Recovery: 90%-110%
BLK: < 20 (<5.0 for Low COD)

Digestion Date: 10/29/2014
Digestion Technician: BLQ
Analysis Date: 10/29/2014
Analyst: BLQ/RLS BLQ
Batch: 4J29716
Sequence: 4J30210
Method #: 410.4
Method Type: Colorimetric
Analyst Authorization: 2nd/ BLQ 10/30/14
Time On: 8:50
Time Off: 10:55
Digestion Vial Lot#: 11984

Lab. #	Client	Field ID	T.V. (mg/L)	Analysis Time (hh:mm)	Initial Sample Volume	Final Sample Volume	Sample Volume Used	*Dilution*	Absorbance	*COD (mg/L)*	*Recovery %*	Control Limits		*Comments*
					Dilution Steps							Low%	High %	
SEQ-CAL1	QC	14D0494	0	11:59	2.00	2.00	2.00	1.00	-0.001	-6.4				
SEQ-CAL2	QC	14D0452	20	12:00	2.00	2.00	2.00	1.00	0.009	16.0	80.0%			
SEQ-CAL3	QC	14D0454	40	12:01	2.00	2.00	2.00	1.00	0.019	38.4	95.9%			
SEQ-CAL4	QC	14D0456	80	12:02	2.00	2.00	2.00	1.00	0.036	76.4	95.5%			
SEQ-CAL5	QC	14D0457	100	12:03	2.00	2.00	2.00	1.00	0.049	105.4	105.4%			
SEQ-CAL6	QC	14D0459	400	12:04	2.00	2.00	2.00	1.00	0.190	420.7	105.2%			
SEQ-CAL7	QC	14D0460	800	12:05	2.00	2.00	2.00	1.00	0.355	789.5	98.7%			
SEQ-ICV	QC	14J0687	144	12:06	2.00	2.00	2.00	1.00	0.066	143.4	99.6%	90.0%	110.0%	
SEQ-ICB	QC	DI H2O	0	12:07	2.00	2.00	2.00	1.00	0.001	-1.9				
4J29716-BS1	QC	14H0106	144	12:06	2.00	2.00	2.00	1.00	0.066	143.4	99.6%	90.0%	110.0%	
4J29716-BLK1	QC	DI H2O	0	12:07	2.00	2.00	2.00	1.00	0.001	-1.9				
SEQ-CCV	QC	14D0457	100	12:08	2.00	2.00	2.00	1.00	0.048	103.2	103.2%	90.0%	110.0%	
SEQ-CCB	QC	DI H2O	0	12:09	2.00	2.00	2.00	1.00	0.000	-4.1				
1410172-02	Onsite	Rich's Food WW		12:10	1.00	500.00	2.00	500.00	0.139	153,319.0				
1410219-02	Tetra Tech	04MW08-1014		12:11	2.00	2.00	2.00	1.00	0.007	11.5				
1410219-04	Tetra Tech	04MW03-1014		12:12	2.00	2.00	2.00	1.00	0.007	11.5				
1410219-06	Tetra Tech	04MW03I-1014		12:13	2.00	2.00	2.00	1.00	0.017	33.9				
4J10219-MS1	Tetra Tech	04MW03I-1014	240	12:14	2.00	2.00	2.00	1.00	0.120	264.2	100.2%	90.0%	110.0%	
4J10219-MSD1	Tetra Tech	04MW03I-1014	240	12:15	2.00	2.00	2.00	1.00	0.119	261.9	99.2%	90.0%	110.0%	
SEQ-CCV	QC	14D0459	400	12:16	2.00	2.00	2.00	1.00	0.185	409.5	102.4%	90.0%	110.0%	
SEQ-CCB	QC	DI H2O	0	12:17	2.00	2.00	2.00	1.00	0.001	-1.9				
SEQ-CCV	QC	14D0457	100	17:43	2.00	2.00	2.00	1.00	0.048	103.2	103.2%	90.0%	110.0%	
SEQ-CCB	QC	DI H2O	0	17:43	2.00	2.00	2.00	1.00	0.000	-4.1				
1410231-02	Tetra Tech	04MW21S-1014		17:44	2.00	2.00	2.00	1.00	0.011	20.5				
1410231-04	Tetra Tech	04MW21I-1014		17:44	2.00	2.00	2.00	1.00	0.025	51.8				
1410231-06	Tetra Tech	04MW13I-1014		17:45	2.00	2.00	2.00	1.00	0.010	18.2				
1410231-08	Tetra Tech	04MW13S-1014		17:46	2.00	2.00	2.00	1.00	0.012	22.7				
4J10219-BS2	QC	14H0106	144	17:47	2.00	2.00	2.00	1.00	0.067	145.7				
SEQ-CCV	QC	14D0457	400	17:48	2.00	2.00	2.00	1.00	0.184	407.2	101.8%	90.0%	110.0%	
SEQ-CCB	QC	DI H2O	0	17:49	2.00	2.00	2.00	1.00	0.000	-4.1				

Comments: MS 1.4mL of sample with 0.6mL of 800ppm standard

1410172-02 = (2232.924 x 0.139) − 3.861536 = 306.5149 x 500 = 153257.45

19 72
M
12-D-1

Sequence Overview

Sequence Details

Name:	**121614**	*Created On:*	**26/Mar/14 13:54:45**
Directory:	**Instrument Data_ICS-2100\2014\Dec2014**	*Created By:*	**Thermo Elctron NA**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**18/Dec/14 11:08:29**
No. of Injections:	**11**	*Updated By:*	**NSH-IONC2**

Injection Details

No.	Injection Name	Position	Type	Level	Inject Time	Status
1	blank	1	Unknown		16/Dec/14 09:11:51	Finished
2	blank	2	Unknown		16/Dec/14 09:29:57	Finished
3	SEQ-CAL1 ML0464	3	Calibration Standard	01	16/Dec/14 09:47:47	Finished
4	SEQ-CAL2 ML0465	4	Calibration Standard	02	16/Dec/14 10:05:37	Finished
5	SEQ-CAL3 ML0466	5	Calibration Standard	03	16/Dec/14 10:23:27	Finished
6	SEQ-CAL4 ML0467	6	Calibration Standard	04	16/Dec/14 10:41:17	Finished
7	SEQ-CAL5 ML0468	7	Calibration Standard	05	16/Dec/14 10:59:07	Finished
8	SEQ-CAL6 ML0469	8	Calibration Standard	06	16/Dec/14 11:16:58	Finished
9	SEQ-CAL7 ML0470	9	Calibration Standard	07	16/Dec/14 11:34:48	Finished
10	SEQ-CAL8 ML0471	10	Calibration Standard	08	16/Dec/14 11:52:39	Finished
11	blank	11	Unknown		16/Dec/14 12:10:29	Finished

Sequence Overview

Sequence Details

Name:	**121614A**	*Created On:*	**26/Mar/14 13:54:45**
Directory:	**Instrument Data_ICS-2100\2014\Dec2014**	*Created By:*	**Thermo Elctron NA**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**18/Dec/14 11:10:58**
No. of Injections:	**20**	*Updated By:*	**NSH-IONC2**

Injection Details

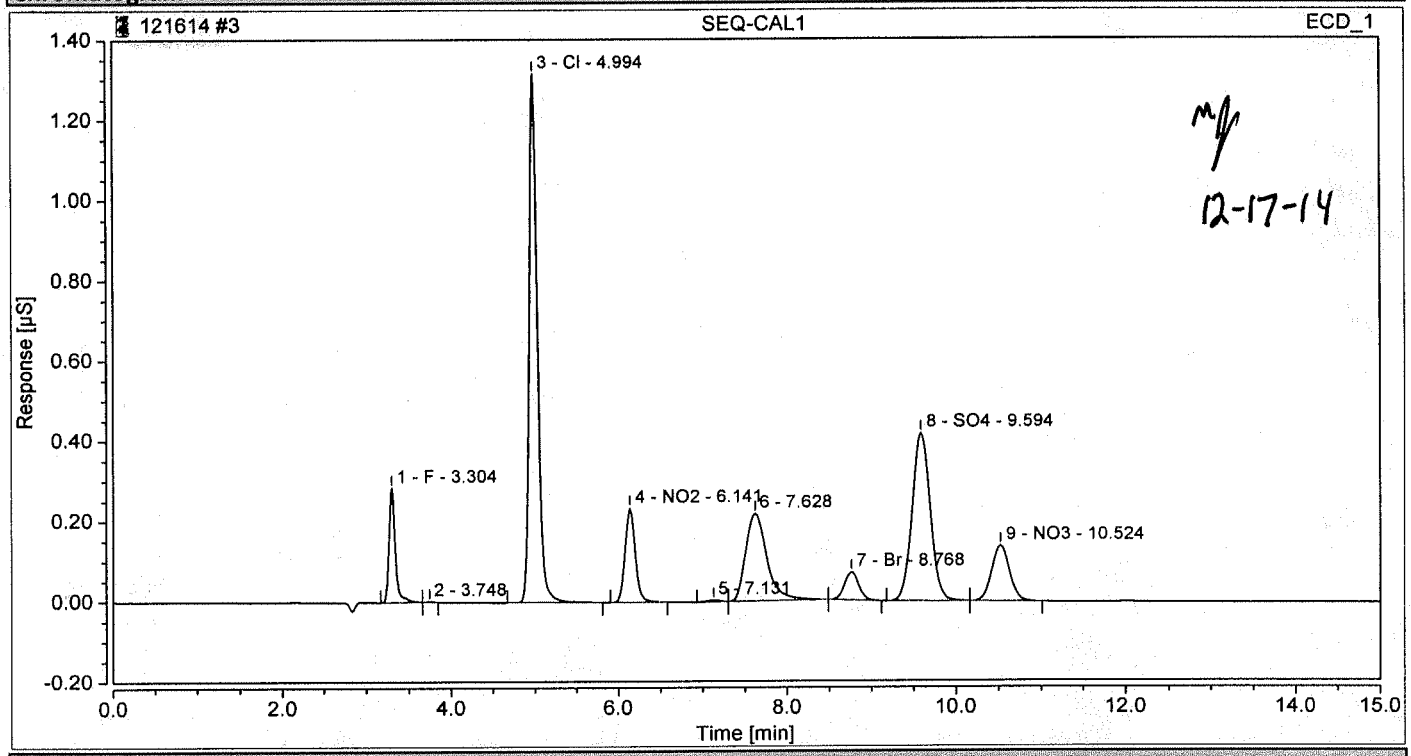
No.	Injection Name	Position	Type	Level	Inject Time	Status
1	BLANK	1	Unknown		16/Dec/14 13:01:07	Finished
2	BLANK	2	Unknown		16/Dec/14 13:20:03	Finished
3	SEQ-ICV1 4L0395	3	Unknown		16/Dec/14 13:43:39	Finished
4	SEQ-CCV1	4	Unknown		16/Dec/14 14:09:16	Finished
5	SEQ-CCB1	5	Unknown		16/Dec/14 14:27:15	Finished
6	SEQ-CRL1	6	Unknown		16/Dec/14 14:45:05	Finished
7	SEQ-CRL2	7	Unknown		16/Dec/14 15:02:55	Finished
8	SEQ-CRL3	8	Unknown		16/Dec/14 15:20:45	Finished
9	4L16013-BLK1	9	Unknown		16/Dec/14 15:38:35	Finished
10	4L16013-BS1	10	Unknown		16/Dec/14 15:56:25	Finished
11	1412171-01	11	Unknown		16/Dec/14 16:14:15	Finished
12	1412171-02	12	Unknown		16/Dec/14 16:32:06	Finished
13	1412172-01@50X	13	Unknown		16/Dec/14 16:52:13	Finished
14	1412019-03RE1	14	Unknown		16/Dec/14 17:10:05	Finished
15	1412019-04RE1	15	Unknown		16/Dec/14 17:27:55	Finished
16	1412019-07RE1	16	Unknown		16/Dec/14 17:45:45	Finished
17	1412019-06RE1	17	Unknown		16/Dec/14 18:03:36	Finished
18	SEQ-CCV2	18	Unknown		16/Dec/14 18:21:26	Finished
19	SEQ-CCB2	19	Unknown		16/Dec/14 18:39:16	Finished
20	BLANK	20	Unknown		16/Dec/14 18:57:07	Finished

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL1**	*Run Time (min):*	**15.00**
Vial Number:	**3**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**01**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 09:47**	*Sample Weight:*	**1.0000**

Chromatogram



mf 12-17-14

Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.304	0.0244767	0.284	5.78	10.59	0.0501
2		3.748	0.0001516	0.002	0.04	0.07	n.a.
3	Cl	4.994	0.1501597	1.316	35.43	49.03	0.4986
4	NO2	6.141	0.0328258	0.234	7.75	8.72	0.0496
5		7.131	0.0007163	0.004	0.17	0.16	n.a.
6		7.628	0.0635233	0.218	14.99	8.10	n.a.
7	Br	8.768	0.0136824	0.070	3.23	2.59	0.1064
8	SO4	9.594	0.1045385	0.418	24.67	15.58	0.5156
9	NO3	10.524	0.0337439	0.139	7.96	5.16	0.0458
Total:			**0.424**	**2.685**	**100.00**	**100.00**	

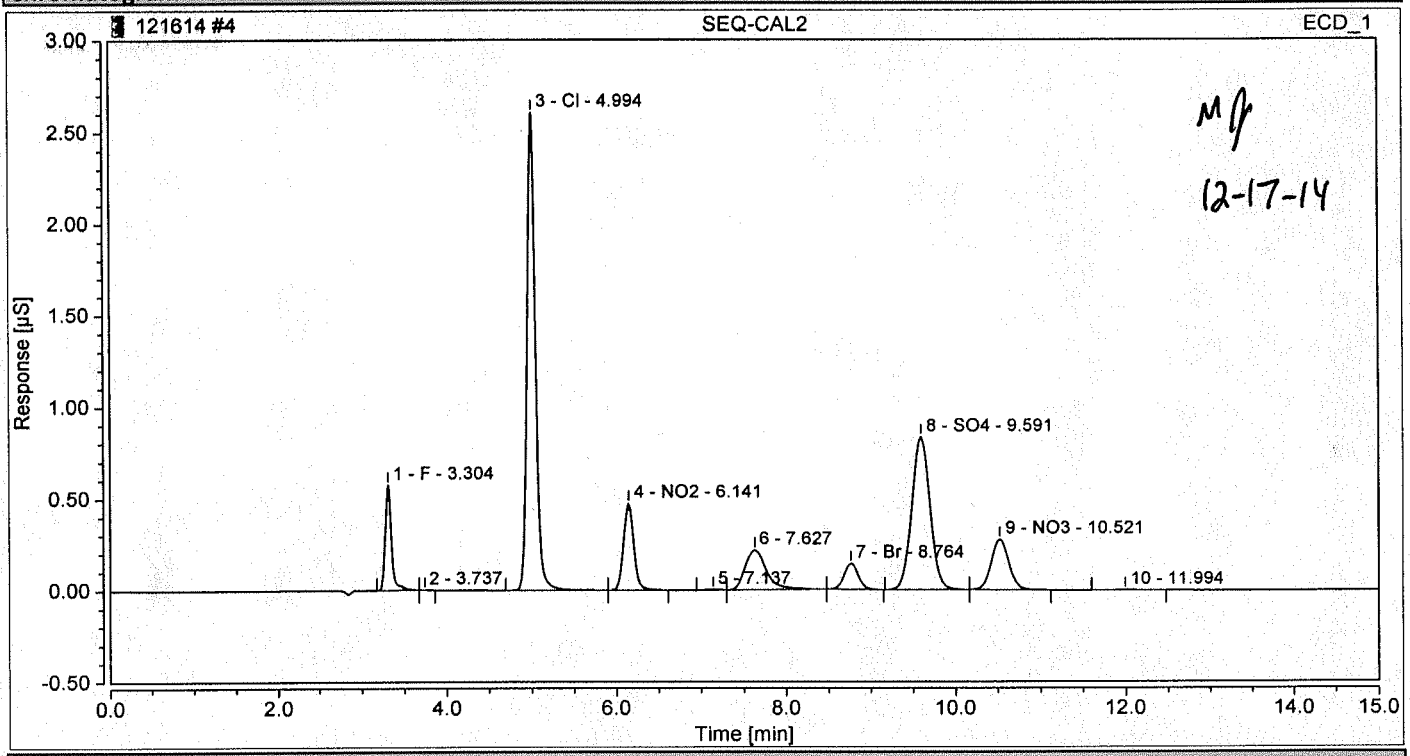
J.H. 12.18.14

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL2**	*Run Time (min):*	**15.00**
Vial Number:	**4**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**02**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 10:05**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.304	0.0493946	0.575	6.32	11.21	0.1011
2		3.737	0.0001163	0.001	0.01	0.02	n.a.
3	Cl	4.994	0.2984897	2.607	38.21	50.84	0.9911
4	NO2	6.141	0.0664483	0.474	8.51	9.24	0.1004
5		7.137	0.0005280	0.003	0.07	0.06	n.a.
6		7.627	0.0631616	0.216	8.08	4.22	n.a.
7	Br	8.764	0.0279399	0.142	3.58	2.77	0.2172
8	SO4	9.591	0.2078992	0.833	26.61	16.24	1.0254
9	NO3	10.521	0.0666766	0.275	8.53	5.37	0.0904
10		11.994	0.0005919	0.002	0.08	0.03	n.a.
Total:			**0.781**	**5.128**	**100.00**	**100.00**	

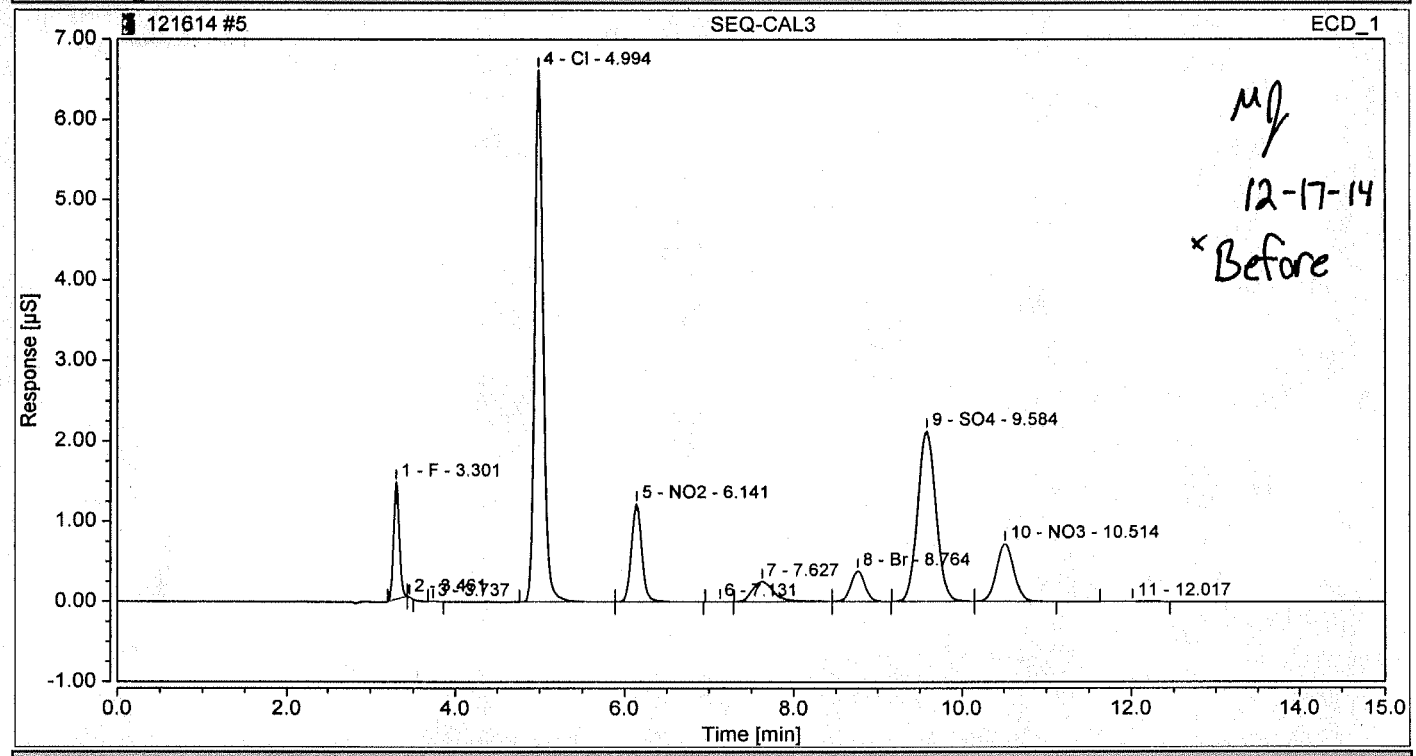
J.H. 12.18.14

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL3**	*Run Time (min):*	**15.00**
Vial Number:	**5**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**03**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 10:23**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

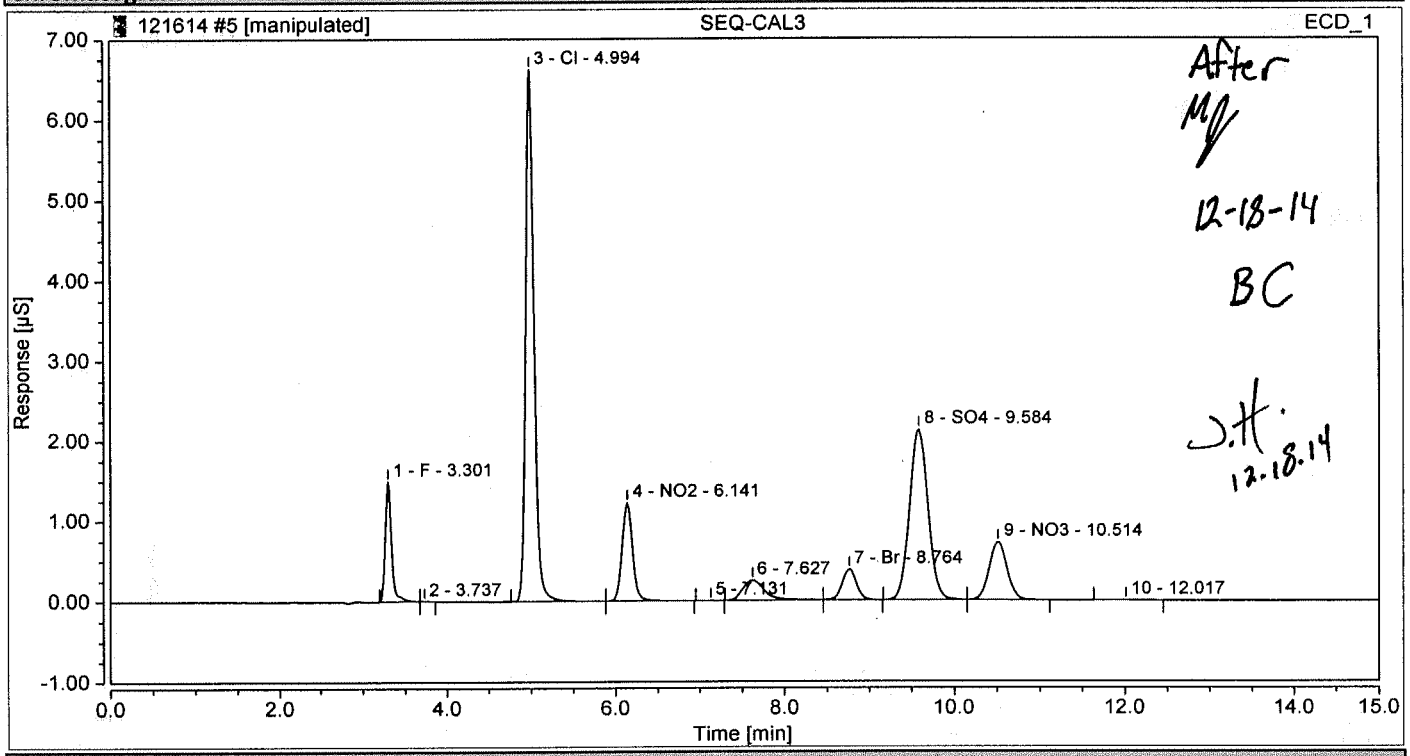
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.301	0.1159286	1.464	6.06	11.44	0.2373
2		3.461	0.0001110	0.003	0.01	0.02	n.a.
3		3.737	0.0001562	0.002	0.01	0.01	n.a.
4	Cl	4.994	0.7634884	6.618	39.92	51.74	2.5351
5	NO2	6.141	0.1738815	1.224	9.09	9.57	0.2627
6		7.131	0.0004057	0.003	0.02	0.02	n.a.
7		7.627	0.0743022	0.249	3.89	1.95	n.a.
8	Br	8.764	0.0743824	0.381	3.89	2.98	0.5783
9	SO4	9.584	0.5340354	2.127	27.93	16.63	2.6340
10	NO3	10.514	0.1746172	0.719	9.13	5.62	0.2368
11		12.017	0.0010489	0.003	0.05	0.02	n.a.
Total:			**1.912**	**12.791**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL3**	*Run Time (min):*	**15.00**
Vial Number:	**5**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**03**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 10:23**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

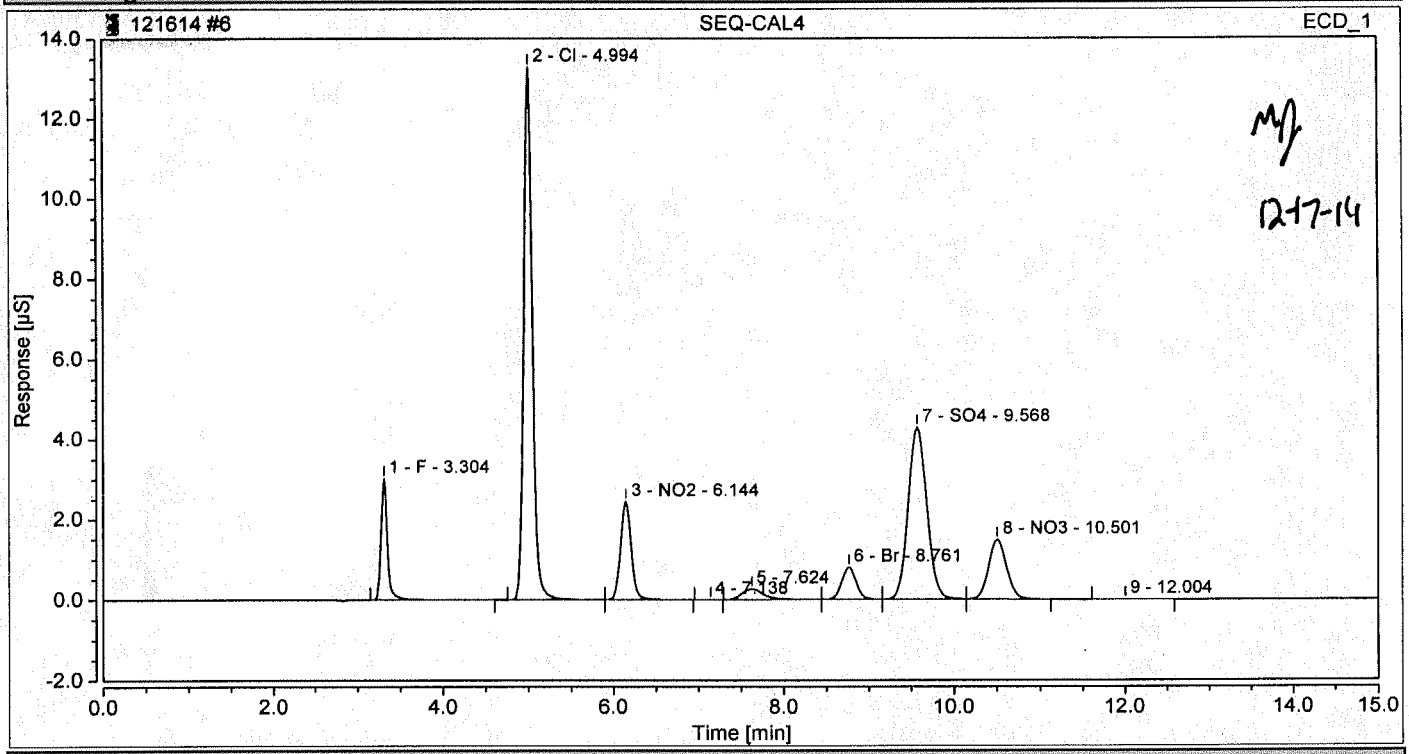
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.301	0.1274347	1.492	6.62	11.64	0.2609
2		3.737	0.0001377	0.000	0.01	0.00	n.a.
3	Cl	4.994	0.7634884	6.618	39.69	51.64	2.5351
4	NO2	6.141	0.1738815	1.224	9.04	9.55	0.2627
5		7.131	0.0004057	0.003	0.02	0.02	n.a.
6		7.627	0.0743022	0.249	3.86	1.95	n.a.
7	Br	8.764	0.0743824	0.381	3.87	2.97	0.5783
8	SO4	9.584	0.5340354	2.127	27.76	16.60	2.6340
9	NO3	10.514	0.1746172	0.719	9.08	5.61	0.2368
10		12.017	0.0010489	0.003	0.05	0.02	n.a.
Total:			**1.924**	**12.815**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL4**	*Run Time (min):*	**15.00**
Vial Number:	**6**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**04**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 10:41**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.304	0.2655798	3.025	6.91	11.83	0.5437
2	Cl	4.994	1.5393683	13.281	40.06	51.93	5.1114
3	NO2	6.144	0.3522259	2.441	9.17	9.54	0.5321
4		7.138	0.0004201	0.003	0.01	0.01	n.a.
5		7.624	0.0793942	0.264	2.07	1.03	n.a.
6	Br	8.761	0.1559308	0.798	4.06	3.12	1.2124
7	SO4	9.568	1.0854872	4.281	28.25	16.74	5.3539
8	NO3	10.501	0.3621844	1.479	9.43	5.78	0.4911
9		12.004	0.0017031	0.005	0.04	0.02	n.a.
Total:			**3.842**	**25.577**	**100.00**	**100.00**	

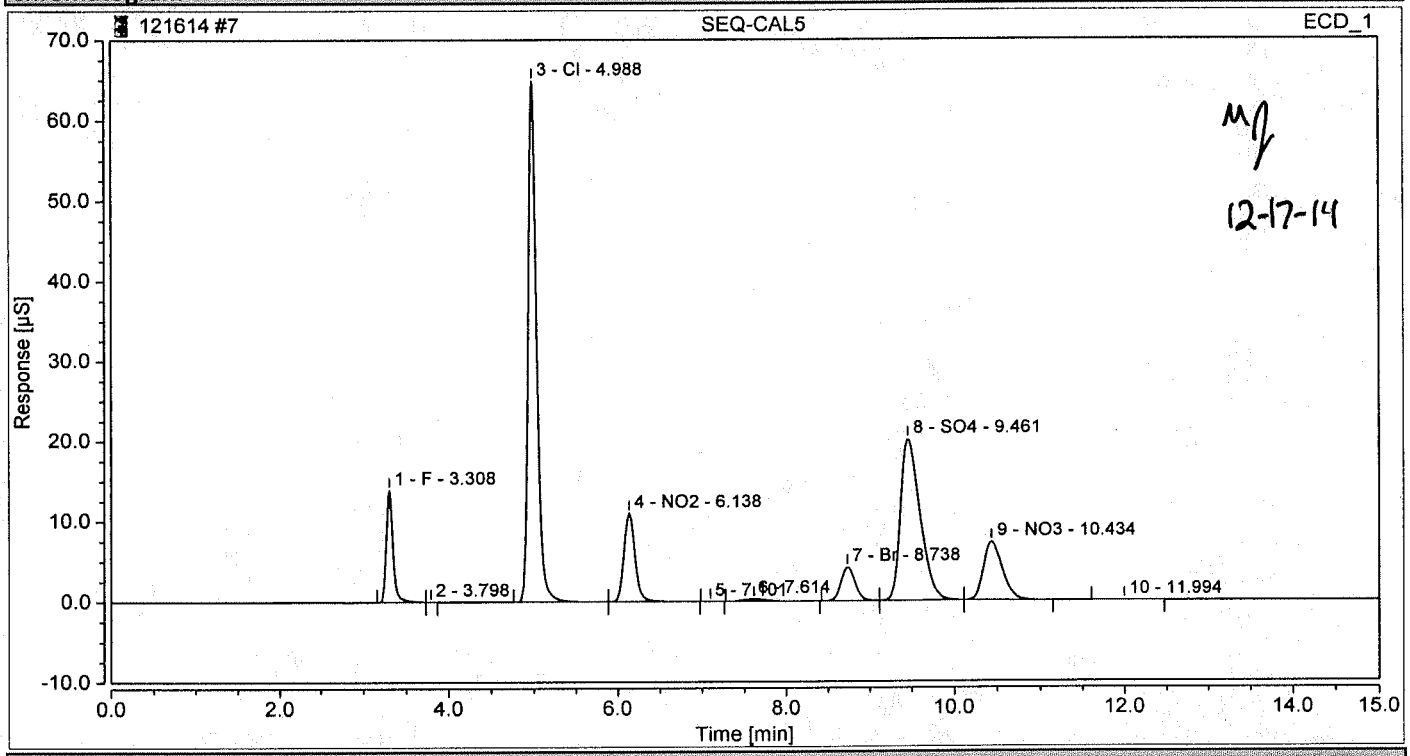
12.18.14

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL5**	*Run Time (min):*	**15.00**
Vial Number:	**7**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**05**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 10:59**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.308	1.2614660	13.924	6.74	11.45	2.5827
2		3.798	0.0003664	0.005	0.00	0.00	n.a.
3	Cl	4.988	7.6003656	64.873	40.62	53.35	25.2366
4	NO2	6.138	1.6867810	10.981	9.01	9.03	2.5480
5		7.101	0.0003045	0.002	0.00	0.00	n.a.
6		7.614	0.0861981	0.286	0.46	0.24	n.a.
7	Br	8.738	0.8183803	4.177	4.37	3.43	6.3629
8	SO4	9.461	5.3930390	20.086	28.82	16.52	26.6000
9	NO3	10.434	1.8600380	7.249	9.94	5.96	2.5220
10		11.994	0.0057436	0.018	0.03	0.01	n.a.
Total:			**18.713**	**121.601**	**100.00**	**100.00**	

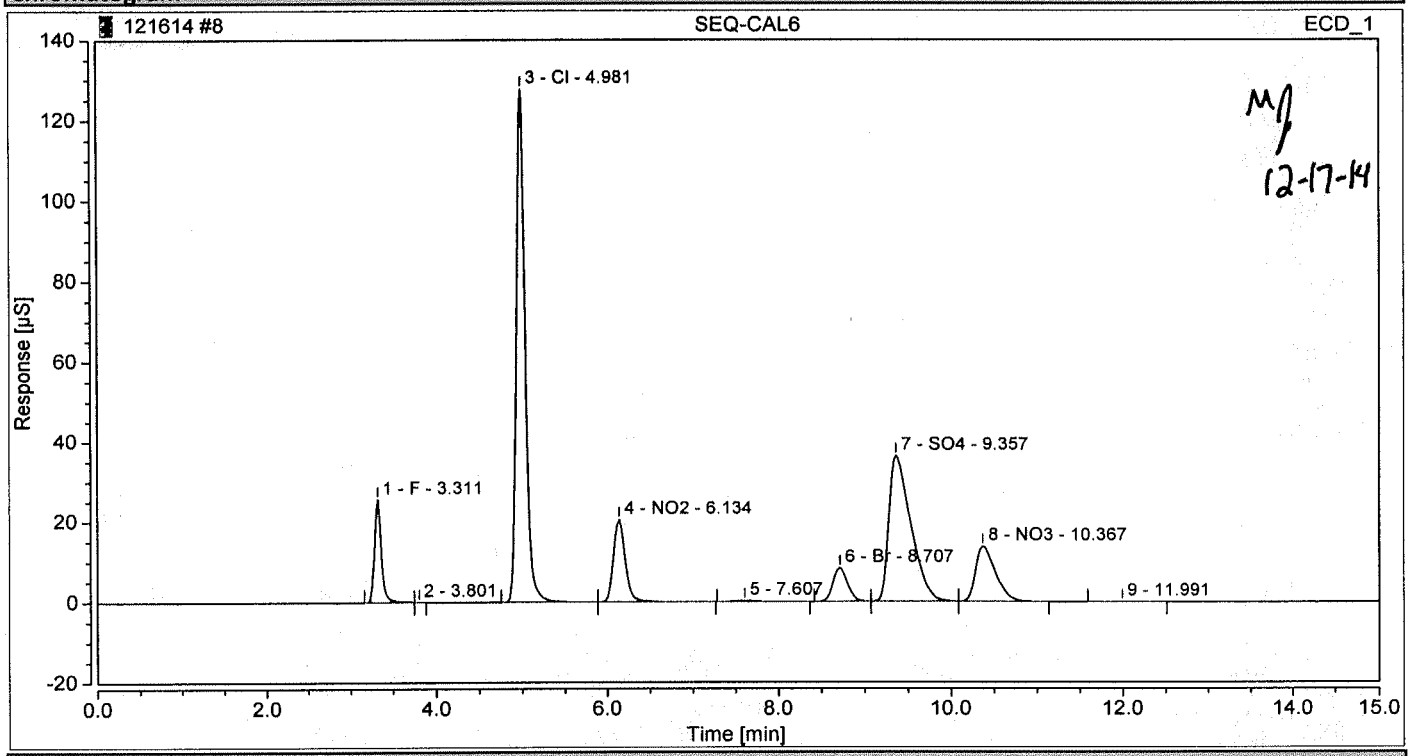
J.H. 12.18.14

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL6**	*Run Time (min):*	**15.00**
Vial Number:	**8**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**06**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 11:16**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.311	2.4201409	25.644	6.54	11.02	4.9549
2		3.801	0.0008154	0.012	0.00	0.01	n.a.
3	Cl	4.981	15.1113592	127.719	40.86	54.89	50.1765
4	NO2	6.134	3.2915686	20.506	8.90	8.81	4.9722
5		7.607	0.0816563	0.277	0.22	0.12	n.a.
6	Br	8.707	1.6417382	8.387	4.44	3.60	12.7645
7	SO4	9.357	10.7089752	36.371	28.95	15.63	52.8197
8	NO3	10.367	3.7204432	13.732	10.06	5.90	5.0444
9		11.991	0.0099274	0.030	0.03	0.01	n.a.
Total:			**36.987**	**232.678**	**100.00**	**100.00**	

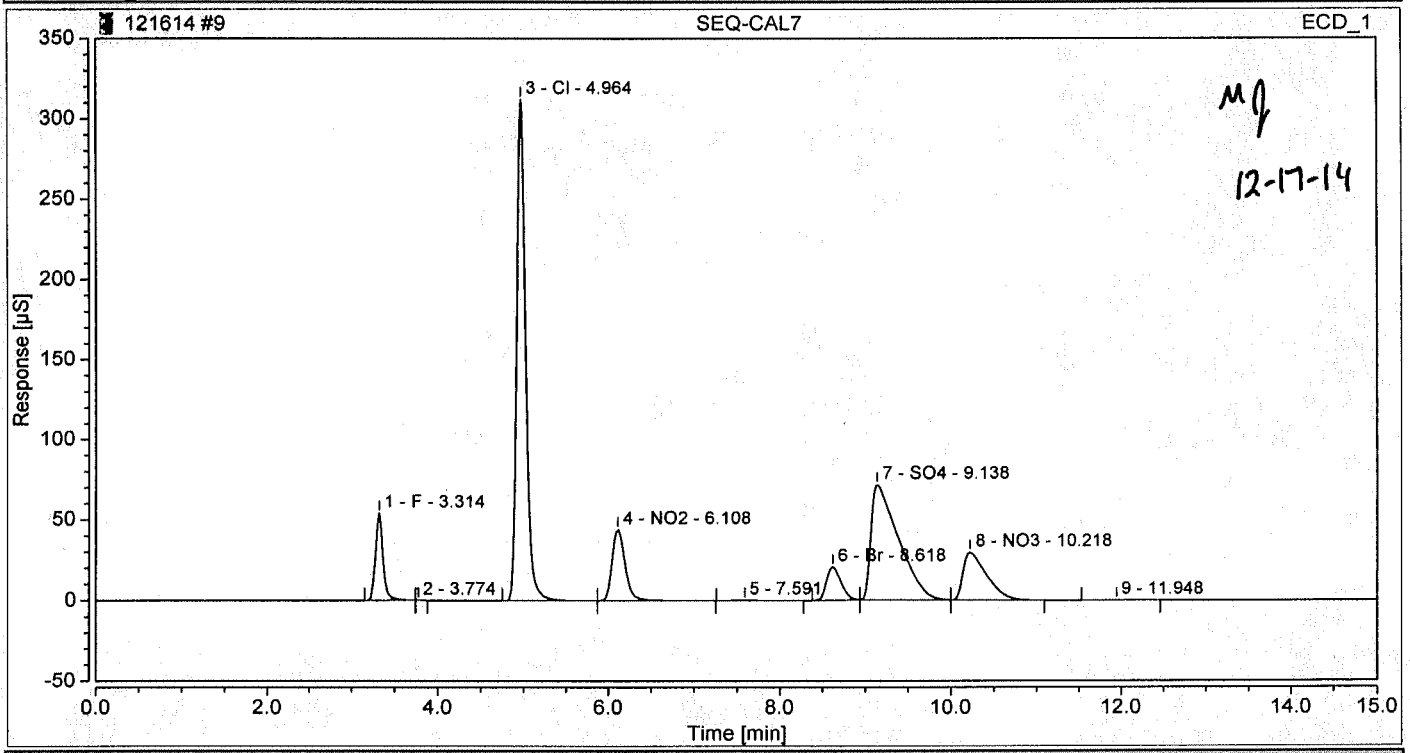
JH. 12.18.14

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL7**	*Run Time (min):*	**15.00**
Vial Number:	**9**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**07**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 11:34**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount	
1	F	3.314	5.5564427	54.049	6.11	10.16	11.3760	NOT USED
2		3.774	0.0026159	0.027	0.00	0.00	n.a.	
3	Cl	4.964	37.6891170	311.985	41.42	58.64	125.1449	
4	NO2	6.108	7.7895833	44.024	8.56	8.27	11.7667	NOT USED
5		7.591	0.1035898	0.347	0.11	0.07	n.a.	
6	Br	8.618	4.0417792	20.645	4.44	3.88	31.4249	
7	SO4	9.138	26.4705091	71.371	29.09	13.42	130.5600	
8	NO3	10.218	9.3066560	29.506	10.23	5.55	12.6185	
9		11.948	0.0233292	0.069	0.03	0.01	n.a.	
Total:			**90.984**	**532.021**	**100.00**	**100.00**		

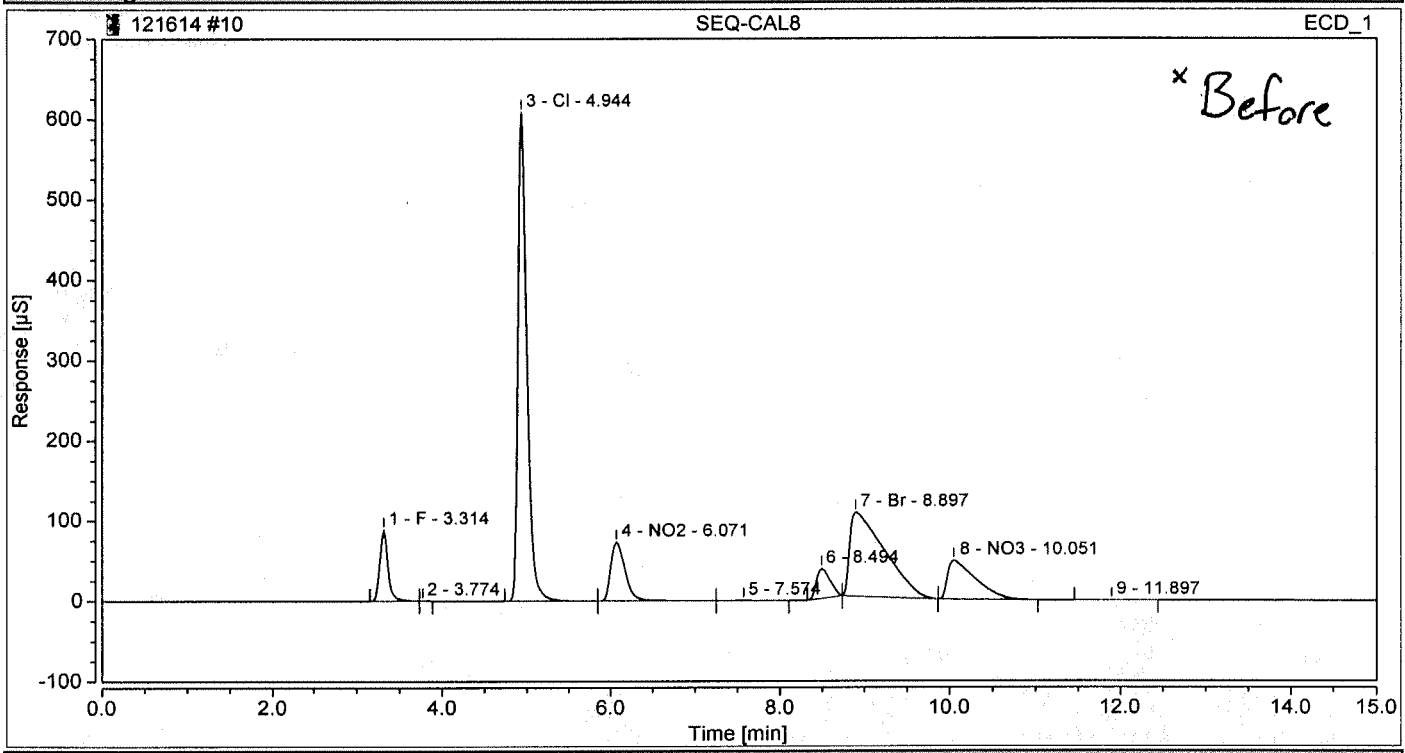
J.H. 12.18.14

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL8**	*Run Time (min):*	**16.00**
Vial Number:	**10**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**08**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 11:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

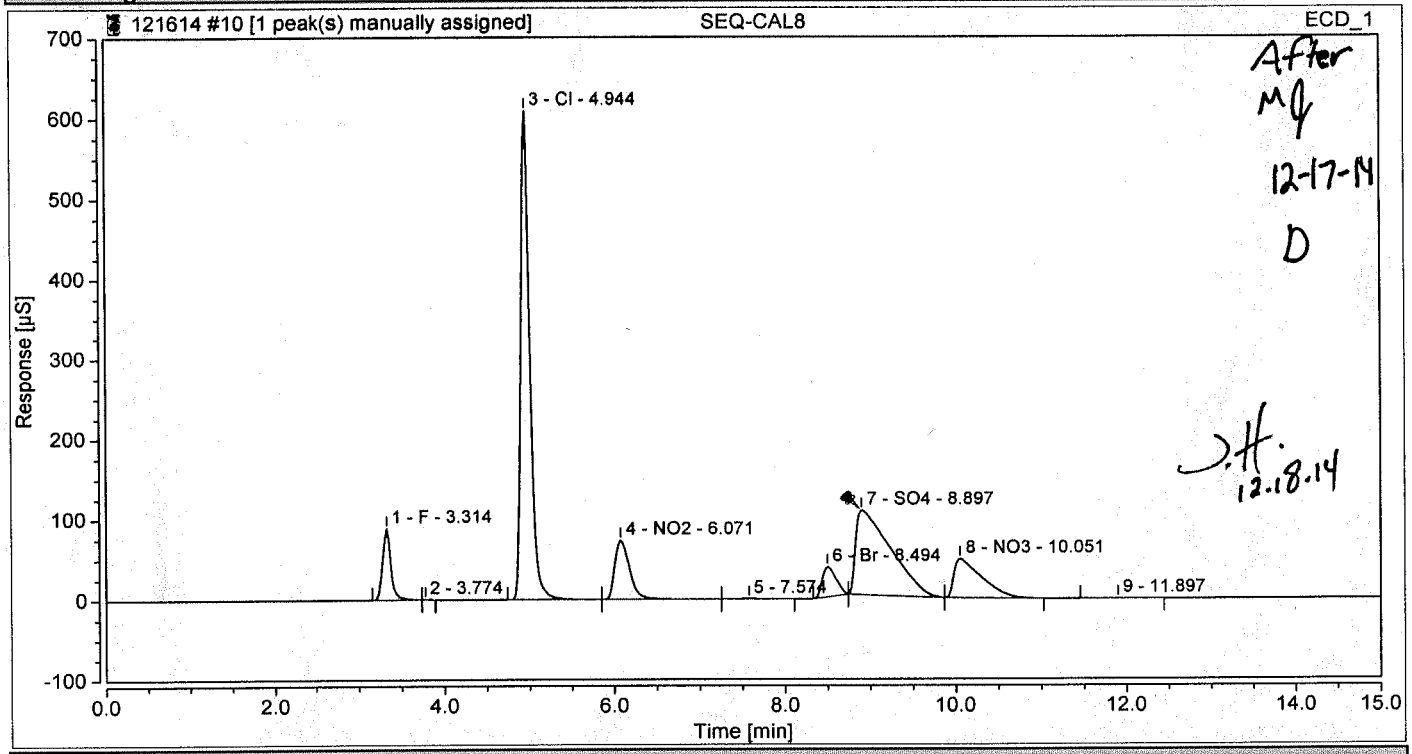
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.314	10.1099268	88.941	5.76	9.24	20.6987
2		3.774	0.0075837	0.079	0.00	0.01	n.a.
3	Cl	4.944	75.2506308	608.833	42.88	63.23	249.8661
4	NO2	6.071	14.6230809	73.355	8.33	7.62	22.0892
5		7.574	0.1273881	0.427	0.07	0.04	n.a.
6		8.494	6.9571532	37.385	3.96	3.88	n.a.
7	Br	8.897	49.9743575	105.092	28.48	10.92	388.5514
n.a.	SO4	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
8	NO3	10.051	18.3868335	48.578	10.48	5.05	24.9300
9		11.897	0.0465005	0.128	0.03	0.01	n.a.
Total:			**175.483**	**962.819**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CAL8**	*Run Time (min):*	**15.00**
Vial Number:	**10**	*Injection Volume:*	**25.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**08**	*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 11:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

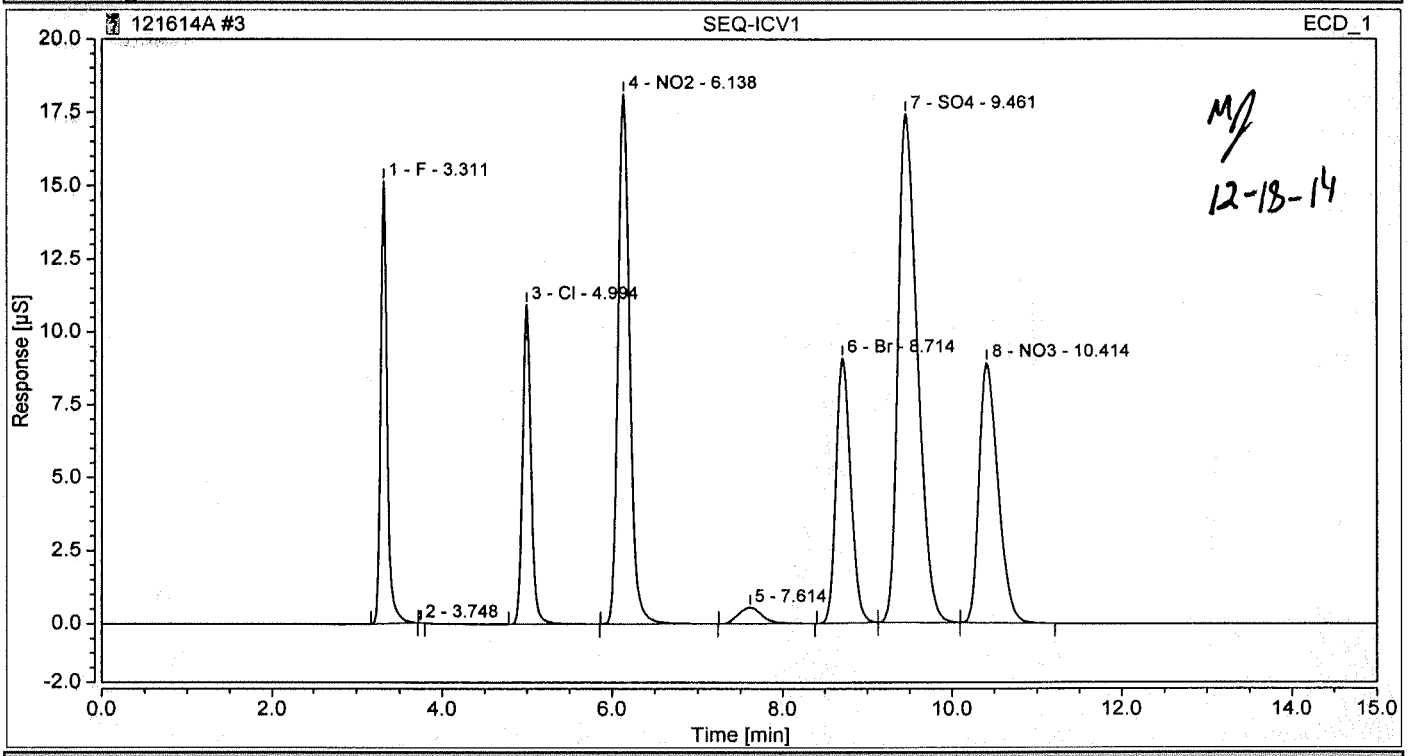
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount	
1	F	3.314	10.1099268	88.941	5.76	9.24	20.6987	NOT USED
2		3.774	0.0075837	0.079	0.00	0.01	n.a.	
3	Cl	4.944	75.2506308	608.833	42.88	63.23	249.8661	
4	NO2	6.071	14.6230809	73.355	8.33	7.62	22.0892	NOT USED
5		7.574	0.1273881	0.427	0.07	0.04	n.a.	
6	Br	8.494	6.9571532	37.385	3.96	3.88	54.0920	NOT USED
7	SO4	8.897	49.9743575	105.092	28.48	10.92	246.4875	
8	NO3	10.051	18.3868335	48.578	10.48	5.05	24.9300	
9		11.897	0.0465005	0.128	0.03	0.01	n.a.	
Total:			**175.483**	**962.819**	**100.00**	**100.00**		

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-ICV1**	*Run Time (min):*	**15.00**
Vial Number:	**3**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Dec/14 13:43**	*Sample Weight:*	**1.0000**

Chromatogram



MJ 12-18-14

Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.311	1.3777375 X	15.148	9.54	18.90	2.8202 X
2		3.748	0.0000732	0.002	0.00	0.00	n.a.
3	Cl	4.994	1.2644145	10.943	8.76	13.65	4.1984
4	NO2	6.138	2.8686200	18.113	19.87	22.60	4.3333
5		7.614	0.1824815	0.552	1.26	0.69	n.a.
6	Br	8.714	1.8130693	9.078	12.56	11.33	14.0966
7	SO4	9.461	4.6157847	17.395	31.97	21.70	22.7663
8	NO3	10.414	2.3168384	8.921	16.05	11.13	3.1413
Total:			**14.439**	**80.154**	**100.00**	**100.00**	

J.H. 12.18.14

TOC-V Cal Curve Information
01-19-15Q.2015_01_19_11_33_04.cal

Date of Creation	10:35:54 AM 1/19/2015
User	RBURR
System	Shimadzu TOC-Vws

Cal. Curve

Sample Name:	Untitled
Sample ID:	Untitled
Cal. Curve:	01-19-15Q.2015_01_19_11_33_04.cal
Status	Completed
Comment:	

Type	Anal.
Standard	NPOC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1.831	350uL	2	*******		1/19/2015 11:42:33
2	1.286	350uL	2	*******		1/19/2015 11:45:43
3	1.255	350uL	2	*******		1/19/2015 11:48:52
4	1.213	350uL	2	*******		1/19/2015 11:53:07

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	1.396
SD Area	0.2914
CV Area	20.87%
Vial	1
WetChem Oxid.	1.5mL

Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	11.99	350uL	2	*******		1/19/2015 12:03:18
2	11.78	350uL	2	*******		1/19/2015 12:06:45
3	11.72	350uL	2	*******		1/19/2015 12:10:11
4	11.42	350uL	2	*******		1/19/2015 12:14:26

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	11.73
SD Area	0.2354
CV Area	2.01%
Vial	2
WetChem Oxid.	1.5mL

Conc: 2.500mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	25.55	350uL	2	*******		1/19/2015 12:24:39
2	27.06	350uL	2	*******		1/19/2015 12:28:11
3	28.51	350uL	2	*******		1/19/2015 12:31:59
4	26.05	350uL	2	*******		1/19/2015 12:36:15

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	26.79
SD Area	1.306
CV Area	4.87%
Vial	3
WetChem Oxid.	1.5mL

Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	51.30	350uL	2	*******		1/19/2015 12:46:38 I
2	51.69	350uL	2	*******		1/19/2015 12:50:19 I
3	52.69	350uL	2	*******		1/19/2015 12:54:41 I
4	50.84	350uL	2	*******		1/19/2015 12:58:56 I

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	51.63
SD Area	0.7874
CV Area	1.53%
Vial	4
WetChem Oxid.	1.5mL

Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	108.0	350uL	2	*******		1/19/2015 1:09:51 P
2	111.3	350uL	2	*******		1/19/2015 1:14:06 P
3	109.4	350uL	2	*******		1/19/2015 1:18:05 P
4	103.9	350uL	2	*******		1/19/2015 1:22:20 P

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	108.2
SD Area	3.140
CV Area	2.90%
Vial	5
WetChem Oxid.	1.5mL

Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	248.9	350uL	2	*******		1/19/2015 1:32:48 P
2	290.8	350uL	2	*******		1/19/2015 1:38:14 P
3	273.0	350uL	2	*******		1/19/2015 1:42:06 P
4	280.0	350uL	2	*******		1/19/2015 1:46:21 P

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	273.2
SD Area	17.76
CV Area	6.50%
Vial	6
WetChem Oxid.	1.5mL

Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	563.3	350uL	2	*******		1/19/2015 1:57:06 P
2	559.5	350uL	2	*******		1/19/2015 2:01:01 P
3	574.4	350uL	2	*******		1/19/2015 2:05:00 P
4	541.7	350uL	2	*******		1/19/2015 2:09:15 P

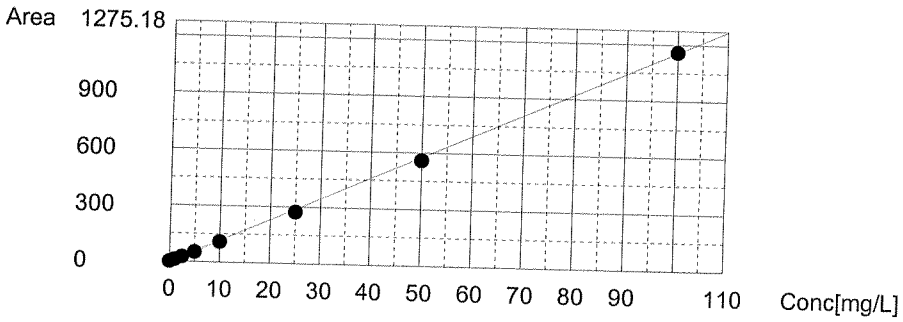
Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	559.7
SD Area	13.58
CV Area	2.43%
Vial	7
WetChem Oxid.	1.5mL

Conc: 100.0mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1263	350uL	2	*******		1/19/2015 2:22:09 P
2	1278	350uL	2	*******		1/19/2015 2:27:30 P
3	1024	350uL	2	*******		1/19/2015 2:31:36 P
4	1072	350uL	2	*******		1/19/2015 2:37:04 P

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	1159
SD Area	130.1
CV Area	11.22%
Vial	8
WetChem Oxid.	1.5mL

Slope:	11.56
Intercept	0.000
r^2	0.9996
r	0.9998
Zero Shift	Yes



Sequence Overview

Sequence Details

Name:	**013015**	*Created On:*	**26/Mar/14 13:54:45**
Directory:	**Instrument Data_ICS-2100\2015\Jan2015**	*Created By:*	**Thermo Elctron NA**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**30/Jan/15 21:00:39**
No. of Injections:	**37**	*Updated By:*	**NSH-IONC2**

Injection Details

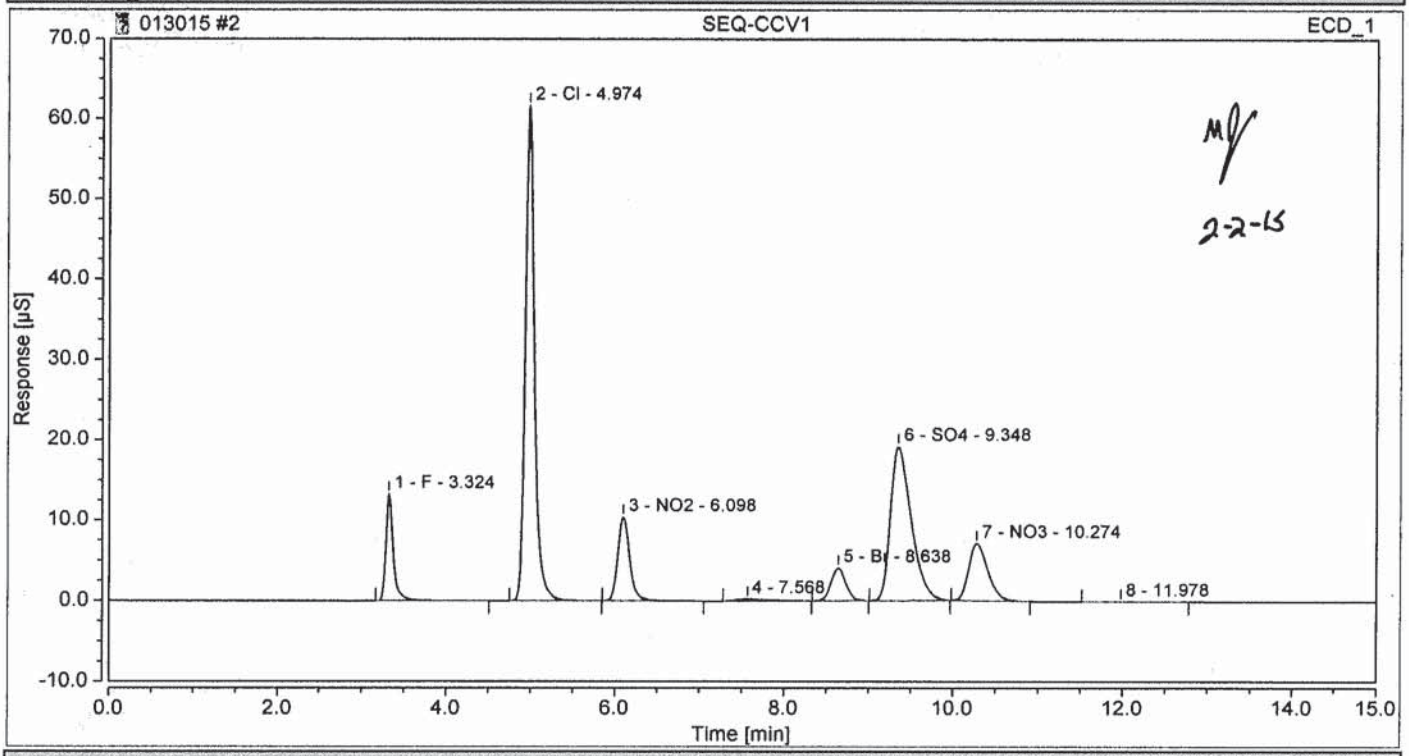
No.	Injection Name	Position	Type	Level	Inject Time	Status
1	BLANK	1	Unknown		30/Jan/15 10:01:50	Finished
2	SEQ-CCV1	2	Unknown		30/Jan/15 10:19:36	Finished
3	SEQ-CCB1	3	Unknown		30/Jan/15 10:37:26	Finished
4	SEQ-CRL1	4	Unknown		30/Jan/15 10:55:16	Finished
5	SEQ-CRL2	5	Unknown		30/Jan/15 11:13:07	Finished
6	SEQ-CRL3	6	Unknown		30/Jan/15 11:30:57	Finished
7	5A30002-BLK1	7	Unknown		30/Jan/15 11:48:47	Finished
8	5A30002-BS1	8	Unknown		30/Jan/15 12:06:37	Finished
9	1501134-03	9	Unknown		30/Jan/15 12:24:27	Finished
10	1501039-01	10	Unknown		30/Jan/15 12:42:17	Finished
11	5A30002-MS1	11	Unknown		30/Jan/15 13:00:07	Finished
12	5A30002-MSD1	12	Unknown		30/Jan/15 13:17:57	Finished
13	5A30002-DUP1	13	Unknown		30/Jan/15 13:35:48	Finished
14	1501039-03	14	Unknown		30/Jan/15 13:53:38	Finished
15	1501039-05	15	Unknown		30/Jan/15 14:11:29	Finished
16	1501039-07	16	Unknown		30/Jan/15 14:29:19	Finished
17	1501039-09	17	Unknown		30/Jan/15 14:47:09	Finished
18	1501039-11	18	Unknown		30/Jan/15 15:05:00	Finished
19	1501039-13	19	Unknown		30/Jan/15 15:22:51	Finished
20	1501056-01	20	Unknown		30/Jan/15 15:40:41	Finished
21	1501056-03	21	Unknown		30/Jan/15 15:58:32	Finished
22	SEQ-CCV2	22	Unknown		30/Jan/15 16:16:22	Finished
23	SEQ-CCB2	23	Unknown		30/Jan/15 16:34:12	Finished
24	1501056-05	24	Unknown		30/Jan/15 16:52:02	Finished
25	1501056-07	25	Unknown		30/Jan/15 17:09:52	Finished
26	5A30002-MS2	26	Unknown		30/Jan/15 17:27:42	Finished
27	5A30002-MSD2	27	Unknown		30/Jan/15 17:45:33	Finished
28	5A30002-DUP2	28	Unknown		30/Jan/15 18:03:24	Finished
29	1501056-09	29	Unknown		30/Jan/15 18:21:14	Finished
30	1501056-11	30	Unknown		30/Jan/15 18:39:04	Finished
31	1501056-13	31	Unknown		30/Jan/15 18:56:55	Finished
32	1501056-15	32	Unknown		30/Jan/15 19:14:45	Finished
33	1501056-17	33	Unknown		30/Jan/15 19:32:34	Finished
34	1501056-19	34	Unknown		30/Jan/15 19:50:24	Finished
35	SEQ-CCV3	35	Unknown		30/Jan/15 20:08:14	Finished
36	SEQ-CCB3	36	Unknown		30/Jan/15 20:26:05	Finished
37	BLANK	37	Unknown		30/Jan/15 20:43:55	Finished

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CCV1**	*Run Time (min):*	**15.00**
Vial Number:	**2**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**30/Jan/15 10:19**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.324	1.3236318	13.285	6.94	11.44	2.7094
2	Cl	4.974	7.7808543	61.720	40.81	53.17	25.8359
3	NO2	6.098	1.6959244	10.408	8.89	8.97	2.5618
4		7.568	0.0996998	0.252	0.52	0.22	n.a.
5	Br	8.638	0.8225411	4.077	4.31	3.51	6.3953
6	SO4	9.348	5.4654640	19.194	28.66	16.53	26.9572
7	NO3	10.274	1.8732655	7.130	9.82	6.14	2.5399
8		11.978	0.0069407	0.014	0.04	0.01	n.a.
Total:			**19.068**	**116.079**	**100.00**	**100.00**	

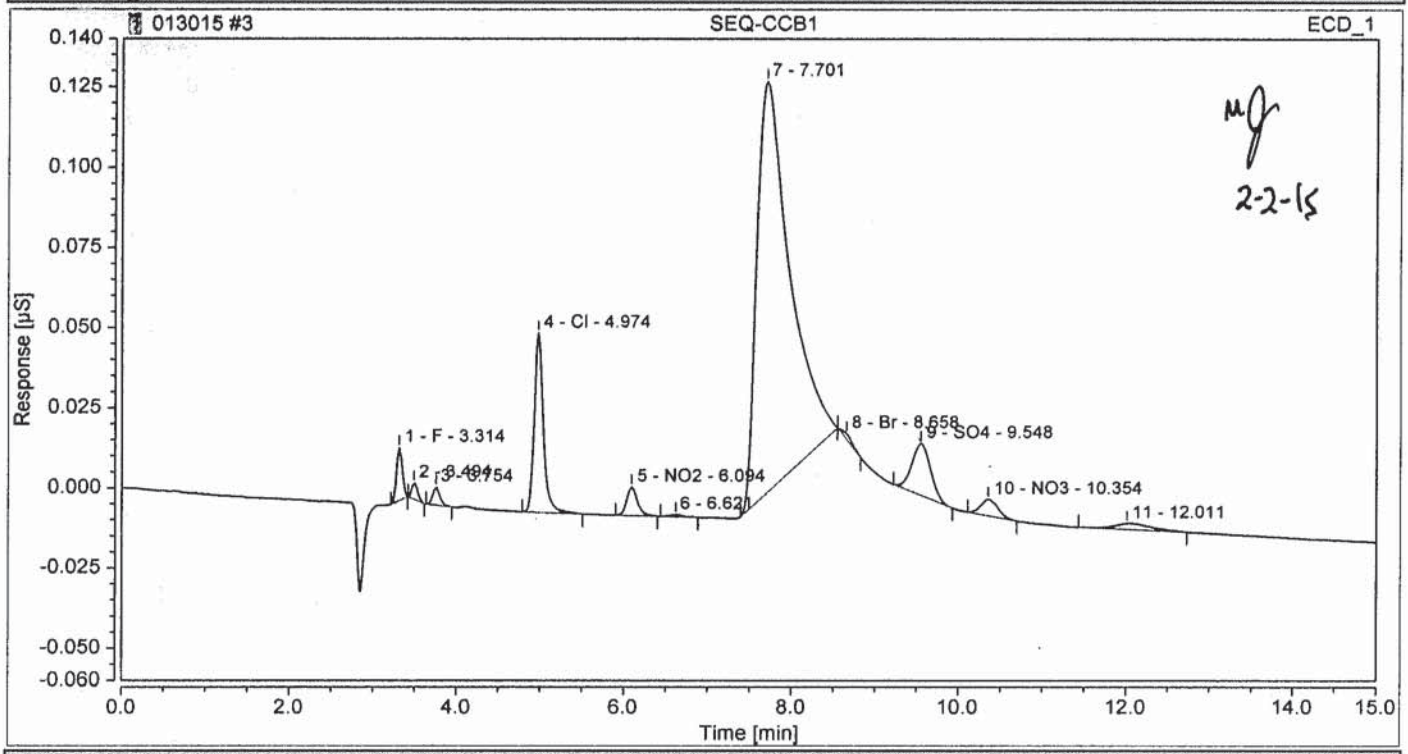
02/03/15

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CCB1**	*Run Time (min):*	**15.00**
Vial Number:	**3**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**30/Jan/15 10:37**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.314	0.0013020	0.017	1.71	6.74	0.0027
2		3.494	0.0004388	0.005	0.58	2.07	n.a.
3		3.754	0.0005724	0.006	0.75	2.29	n.a.
4	Cl	4.974	0.0070861	0.056	9.33	22.73	0.0235
5	NO2	6.094	0.0013383	0.009	1.76	3.63	0.0020
6		6.621	0.0001244	0.001	0.16	0.28	n.a.
7		7.701	0.0583651	0.128	76.82	52.12	n.a.
8	Br	8.658	0.0002705	0.002	0.36	0.75	0.0021
9	SO4	9.548	0.0042449	0.016	5.59	6.55	0.0209
10	NO3	10.354	0.0012294	0.005	1.62	2.07	0.0017
11		12.011	0.0010042	0.002	1.32	0.76	n.a.
Total:			**0.076**	**0.246**	**100.00**	**100.00**	

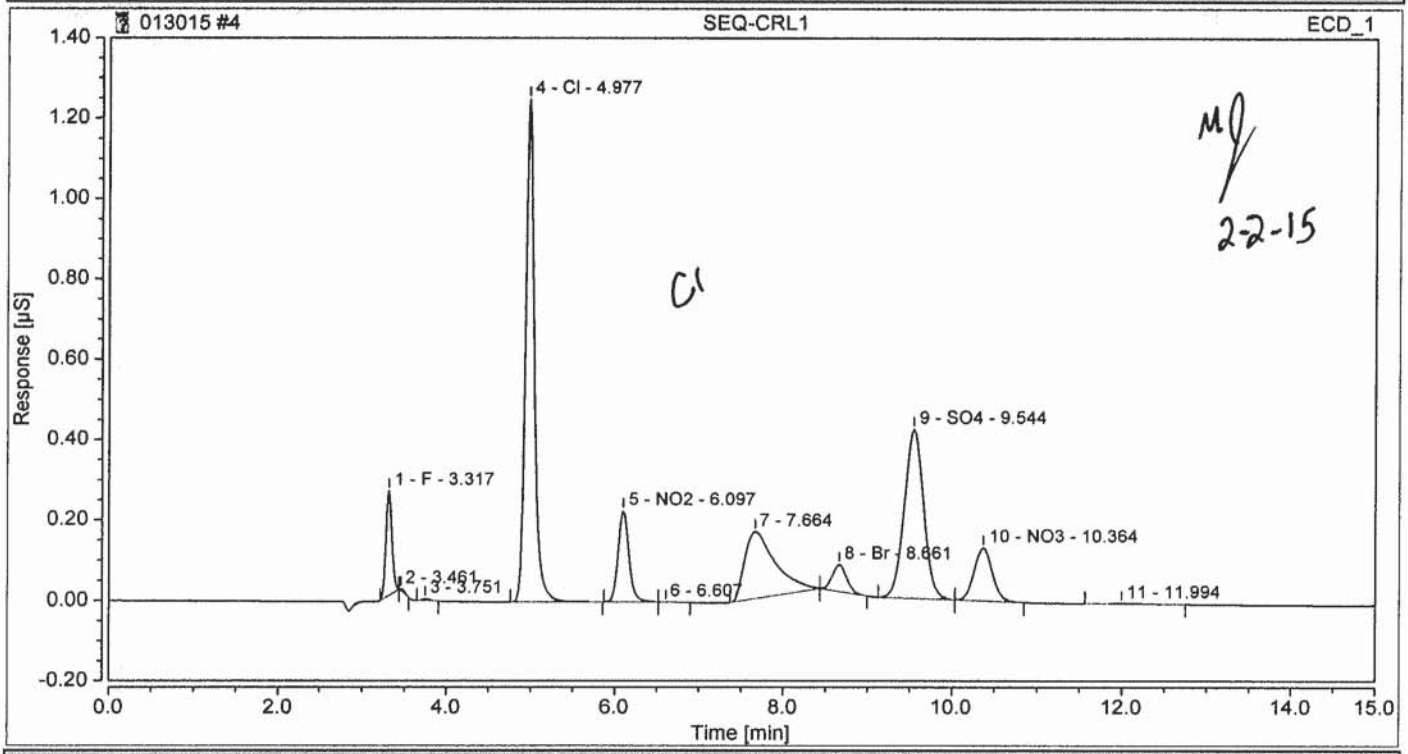
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Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CRL1**	*Run Time (min):*	**15.00**
Vial Number:	**4**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**30/Jan/15 10:55**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.317	0.0208079	0.260	4.75	10.27	0.0426
2		3.461	0.0003840	0.005	0.09	0.19	n.a.
3		3.751	0.0004820	0.005	0.11	0.20	n.a.
4	Cl	4.977	0.1540600	1.251	35.19	49.36	0.5115
5	NO2	6.097	0.0336425	0.226	7.68	8.94	0.0508
6		6.607	0.0000877	0.001	0.02	0.02	n.a.
7		7.664	0.0698416	0.166	15.95	6.55	n.a.
8	Br	8.661	0.0132596	0.067	3.03	2.64	0.1031
9	SO4	9.544	0.1121949	0.420	25.63	16.59	0.5534
10	NO3	10.364	0.0324528	0.132	7.41	5.19	0.0440
11		11.994	0.0006122	0.001	0.14	0.05	n.a.
Total:			**0.438**	**2.533**	**100.00**	**100.00**	

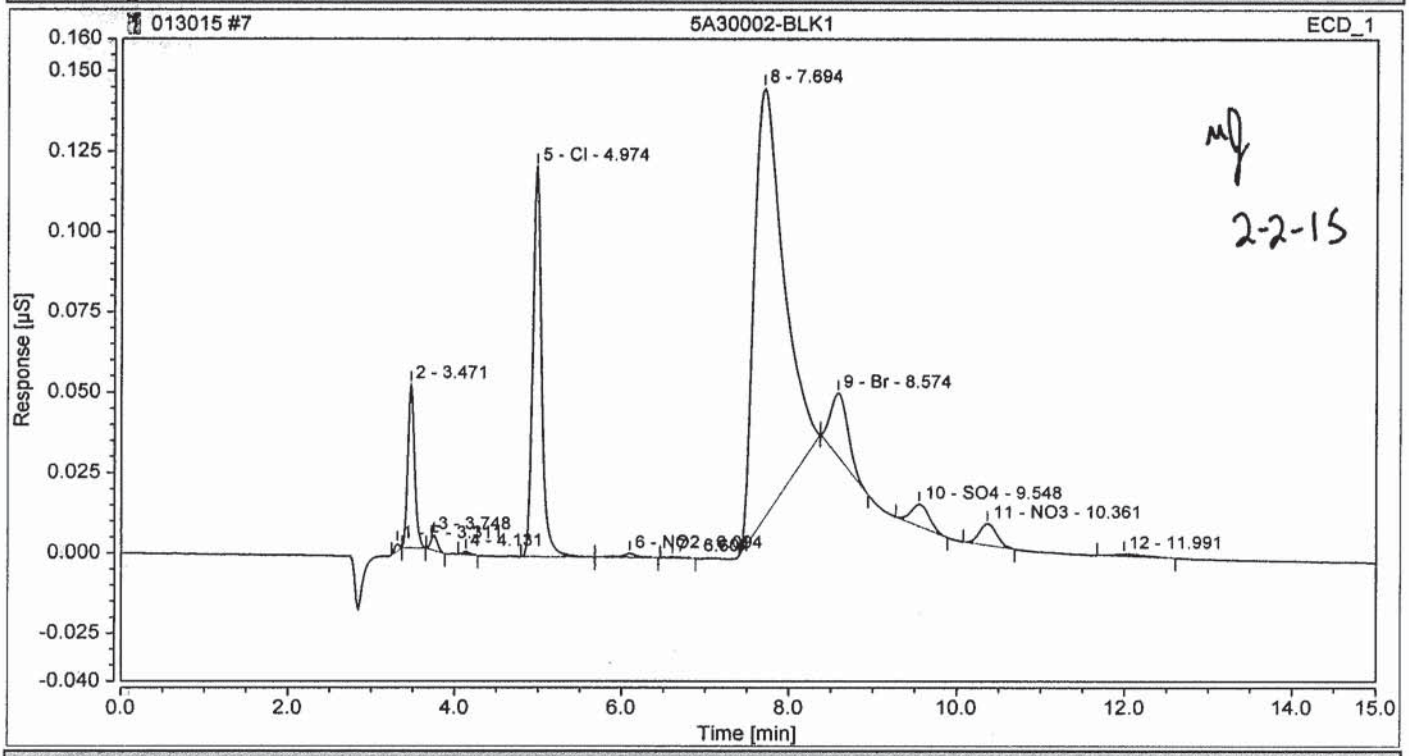
02/03/15

Chromatogram and Results

Injection Details

Injection Name:	**5A30002-BLK1**	*Run Time (min):*	**15.00**
Vial Number:	**7**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**30/Jan/15 11:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.311	0.0001356	0.002	0.16	0.64	0.0003
2		3.471	0.0048825	0.051	5.82	14.54	n.a.
3		3.748	0.0004384	0.005	0.52	1.38	n.a.
4		4.131	0.0000983	0.001	0.12	0.28	n.a.
5	Cl	4.974	0.0150186	0.122	17.92	34.72	0.0499
6	NO2	6.094	0.0002806	0.001	0.33	0.35	0.0004
7		6.604	0.0000701	0.000	0.08	0.11	n.a.
8		7.694	0.0543519	0.134	64.84	38.29	n.a.
9	Br	8.574	0.0048267	0.020	5.76	5.61	0.0375
10	SO4	9.548	0.0017771	0.007	2.12	1.97	0.0088
11	NO3	10.361	0.0016310	0.007	1.95	1.93	0.0022
12		11.991	0.0003099	0.001	0.37	0.20	n.a.
Total:			**0.084**	**0.350**	**100.00**	**100.00**	

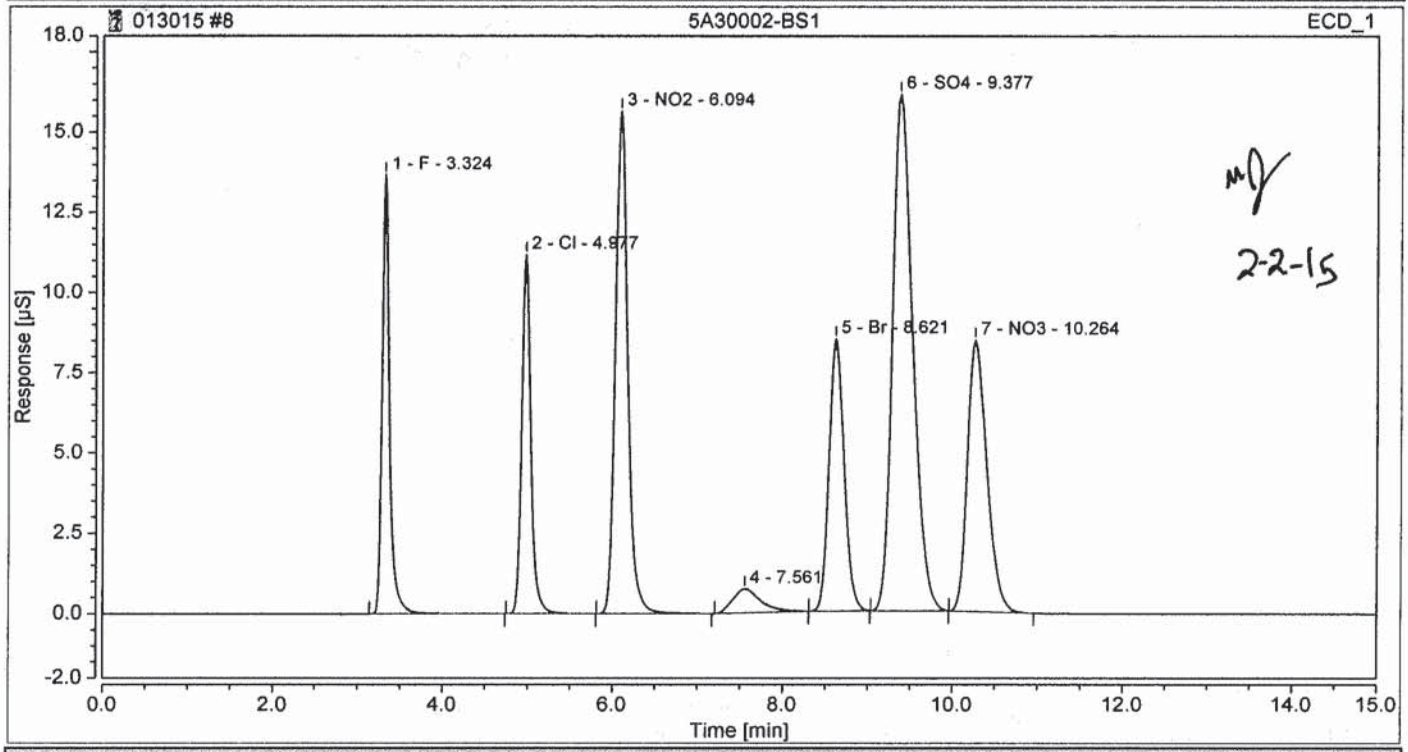
02/03/15

Chromatogram and Results

Injection Details

Injection Name:	**5A30002-BS1**	*Run Time (min):*	**15.00**
Vial Number:	**8**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**30/Jan/15 12:06**	*Sample Weight:*	**1.0000**

Chromatogram



MJ 2-2-15

Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.324	1.3639158	13.676	9.68	18.43	2.7919
2	Cl	4.977	1.3831315	11.179	9.82	15.06	4.5926
3	NO2	6.094	2.6375182	15.642	18.72	21.08	3.9842
4		7.561	0.2845195	0.742	2.02	1.00	n.a.
5	Br	8.621	1.7389061	8.461	12.34	11.40	13.5200
6	SO4	9.377	4.4461263	16.086	31.55	21.67	21.9295
7	NO3	10.264	2.2369768	8.434	15.88	11.36	3.0330
Total:			**14.091**	**74.220**	**100.00**	**100.00**	

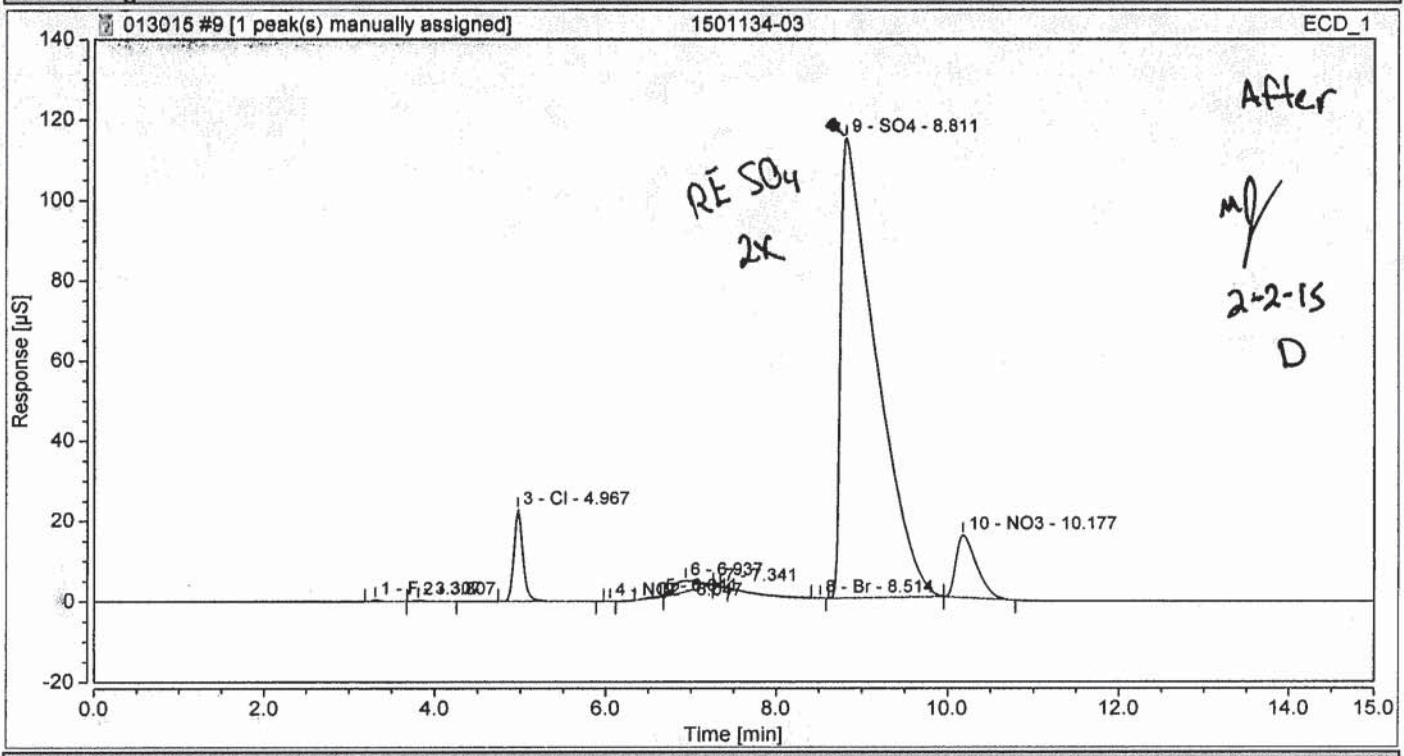
02/03/15

Chromatogram and Results

Injection Details

Injection Name:	**1501134-03**	*Run Time (min):*	**15.00**
Vial Number:	**9**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**30/Jan/15 12:24**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.307	0.0401919	0.404	0.06	0.26	0.0823
2		3.807	0.0295445	0.288	0.05	0.18	n.a.
3	Cl	4.967	2.7930449	22.781	4.46	14.55	9.2742
4	NO2	6.047	0.0003152	0.004	0.00	0.00	0.0005
5		6.641	0.0381667	0.125	0.06	0.08	n.a.
6		6.937	0.9499269	2.728	1.52	1.74	n.a.
7		7.341	0.0001811	0.002	0.00	0.00	n.a.
8	Br	8.514	0.0007337	0.008	0.00	0.01	0.0057
9	SO4	8.811	54.4483855	114.658	86.92	73.23	268.5547
10	NO3	10.177	4.3387189	15.568	6.93	9.94	5.8827
Total:			**62.639**	**156.565**	**100.00**	**100.00**	

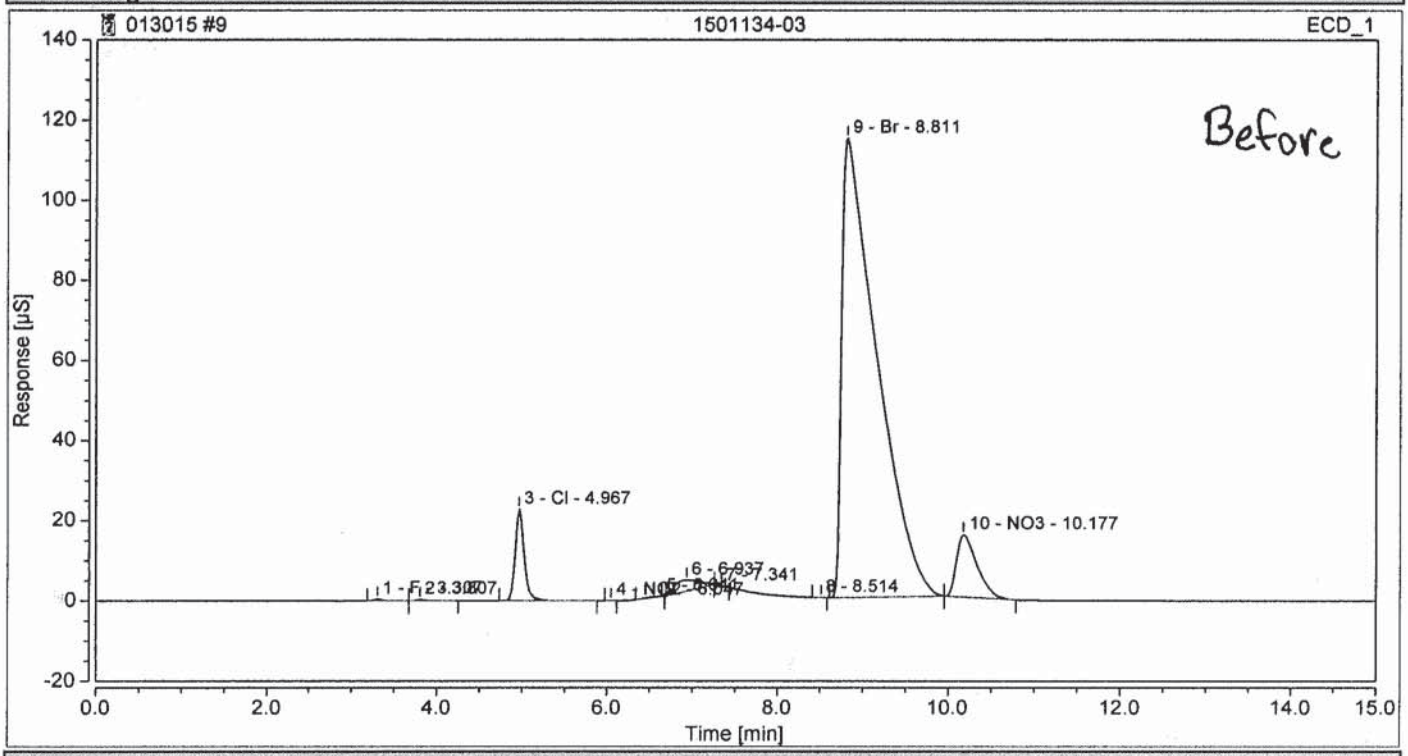
02/03/15

Chromatogram and Results

Injection Details

Injection Name:	**1501134-03**	*Run Time (min):*	**15.00**
Vial Number:	**9**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**30/Jan/15 12:24**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

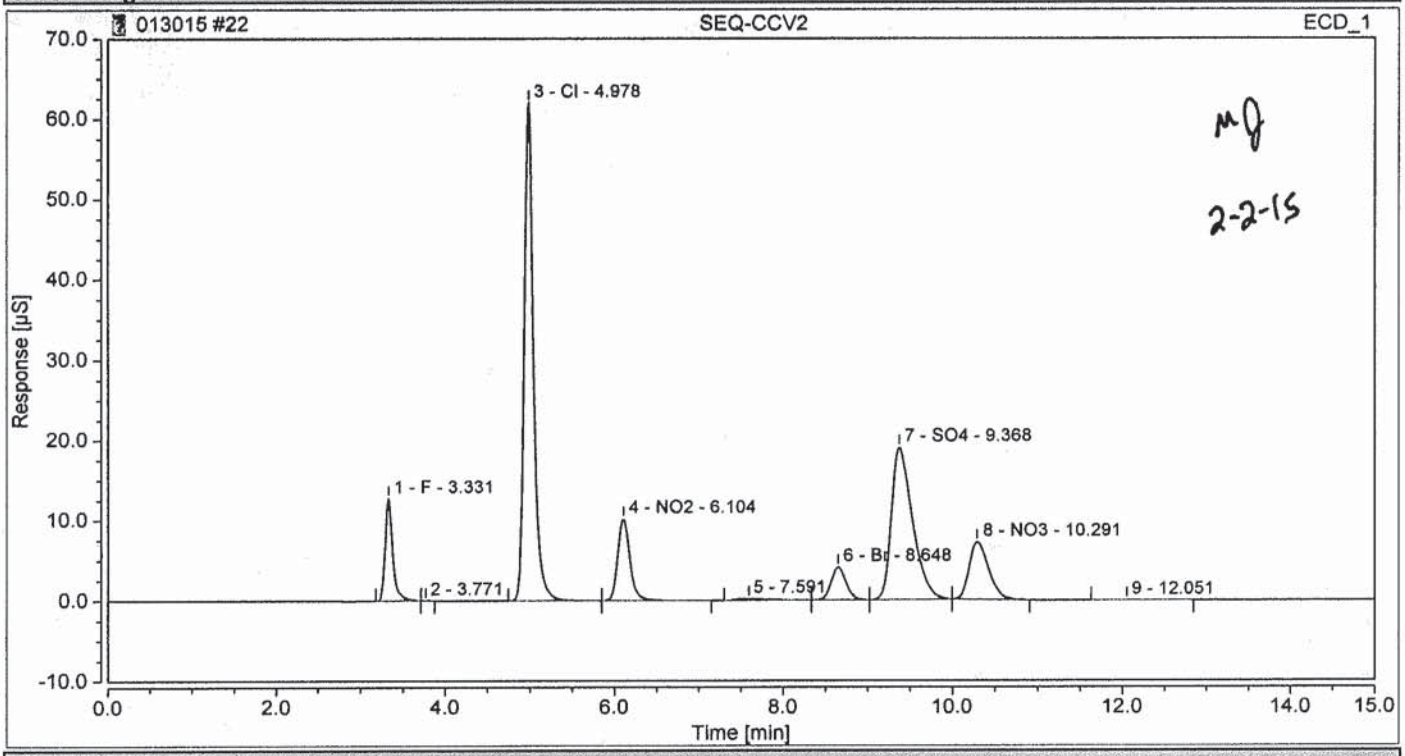
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.307	0.0401919	0.404	0.06	0.26	0.0823
2		3.807	0.0295445	0.288	0.05	0.18	n.a.
3	Cl	4.967	2.7930449	22.781	4.46	14.55	9.2742
4	NO2	6.047	0.0003152	0.004	0.00	0.00	0.0005
5		6.641	0.0381667	0.125	0.06	0.08	n.a.
6		6.937	0.9499269	2.728	1.52	1.74	n.a.
7		7.341	0.0001811	0.002	0.00	0.00	n.a.
8		8.514	0.0007337	0.008	0.00	0.01	n.a.
9	Br	8.811	54.4483855	114.658	86.92	73.23	423.3370
n.a.	SO4	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
10	NO3	10.177	4.3387189	15.568	6.93	9.94	5.8827
Total:			**62.639**	**156.565**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CCV2**	*Run Time (min):*	**15.00**
Vial Number:	**22**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**30/Jan/15 16:16**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.331	1.2989841	12.739	6.81	11.05	2.6590
2		3.771	0.0005898	0.007	0.00	0.01	n.a.
3	Cl	4.978	7.8336975	61.971	41.06	53.76	26.0114
4	NO2	6.104	1.6785808	10.162	8.80	8.82	2.5356
5		7.591	0.0858719	0.209	0.45	0.18	n.a.
6	Br	8.648	0.8273178	4.080	4.34	3.54	6.4324
7	SO4	9.368	5.4701910	18.969	28.67	16.46	26.9805
8	NO3	10.291	1.8828276	7.132	9.87	6.19	2.5529
9		12.051	0.0024923	0.005	0.01	0.00	n.a.
Total:			**19.081**	**115.274**	**100.00**	**100.00**	

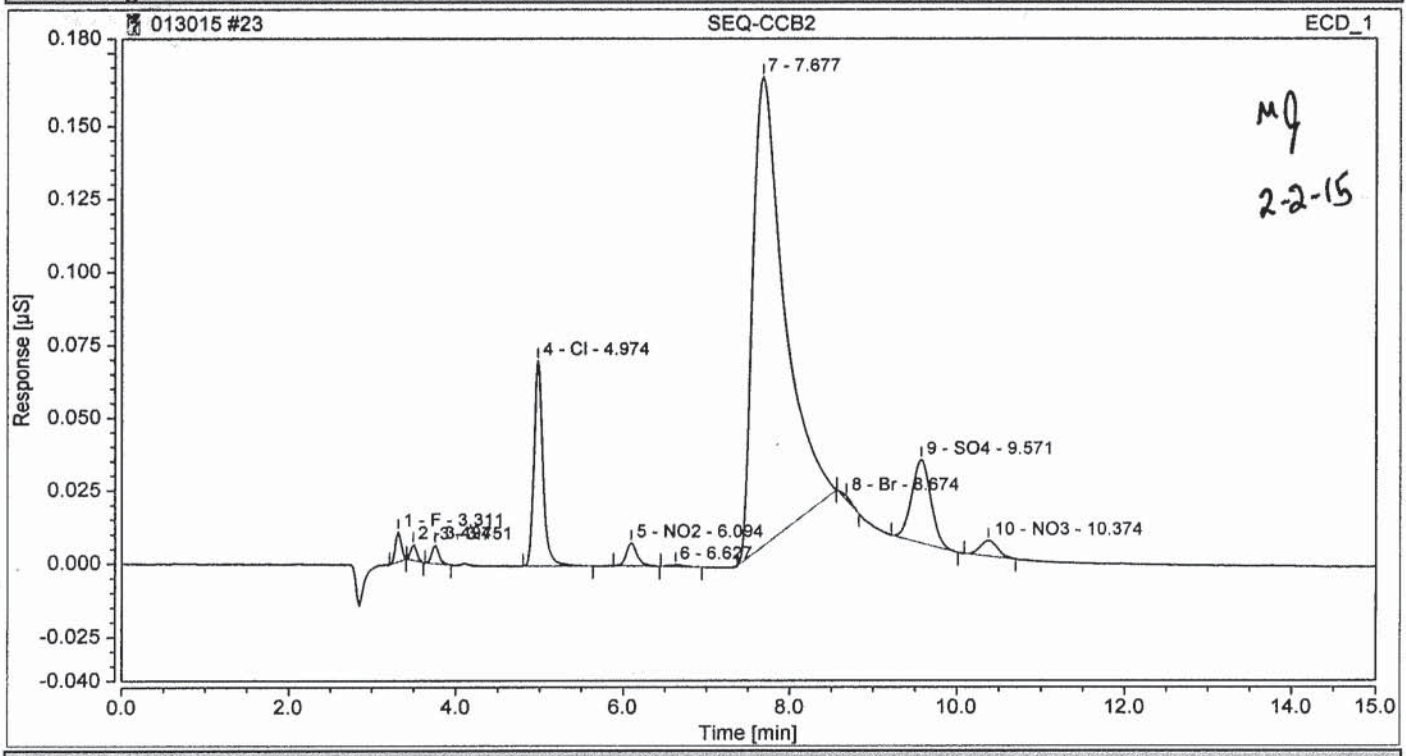
02/03/15

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CCB2**	*Run Time (min):*	**15.00**
Vial Number:	**23**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**30/Jan/15 16:34**	*Sample Weight:*	**1.0000**

Chromatogram



MJ 2-2-15

Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.311	0.0008023	0.010	0.87	3.47	0.0016
2		3.494	0.0004692	0.005	0.51	1.81	n.a.
3		3.751	0.0006474	0.006	0.71	2.15	n.a.
4	Cl	4.974	0.0087279	0.070	9.52	23.71	0.0290
5	NO2	6.094	0.0011955	0.008	1.30	2.65	0.0018
6		6.627	0.0001161	0.001	0.13	0.20	n.a.
7		7.677	0.0706167	0.161	76.99	54.14	n.a.
8	Br	8.674	0.0002126	0.001	0.23	0.50	0.0017
9	SO4	9.571	0.0076512	0.028	8.34	9.57	0.0377
10	NO3	10.374	0.0012803	0.005	1.40	1.80	0.0017
Total:			**0.092**	**0.297**	**100.00**	**100.00**	

02/03/15

Chemical Oxygen Demand (COD)

Empirical Laboratories

421

Client(s): METRO, CB&I

Curve Date: 10/24/2014
DO NOT USE, CURVE OLDER THAN 3 MONTHS
Correlation: 0.99820202
Calibration ID: ~~2324001~~ 1302005
Wavelentgh = 620 nm
Detection Limit = 20 mg/L

Standard ID	mg/L	ABS
14D0494	0	-0.001
14D0450	20	0.009
14D0452	40	0.019
14D0456	80	0.036
14D0457	100	0.049
14D0459	400	0.190
14D0460	800	0.355

Digestion Date: 2/4/2015
Digestion Technician: RLS/KLG
Analysis Date: 2/8/2015
Analyst: RLS
Batch: 5B04004
Method #: 410.4
Method Type: Colorimetric
Analyst Authorization:
Serquence: 5B03901
Time On: 9:43
Time Off: 11:43
Digestion Vial Lot#: 11984

QC Criteria
BS Recovery: 90%-110%
Calibration Standard Recovery: 90%-110%
BLK: < 20 (<5.0 for Low COD)

COD Block Temp. (150±2°C):

Lab. #	Client	Field ID	T.V. (mg/L)	Analysis Time (hh:mm)	Initial Sample Volume	Final Sample Volume	Sample Volume Used	Dilution	Absorbance	COD (mg/L)	Recovery %	Control Limits		Comments
					Dilution Steps							Low%	High %	
SEQ-CCV	QC	14D0457	100	16:10	2.00	2.00	2.00	1.00	0.048	103.2	103.2%	90.0%	110.0%	
SEQ-CCB	QC	DI H2O	0	16:11	2.00	2.00	2.00	1.00	-0.001	-6.4				
5B04004-BS1	QC	14H0106	144	16:12	2.00	2.00	2.00	1.00	0.063	136.7	95.0%	90.0%	110.0%	
5B04004-BLK1	QC	DI H2O	0	16:13	2.00	2.00	2.00	1.00	-0.001	-6.4				
5B04004-MS1	QC	1502001-07	240	16:14	2.00	2.00	2.00	1.00	0.117	257.5	107.3%			
1501127-01	METRO	HARPETH		16:15	2.00	2.00	2.00	1.00	0.002	0.4				
1501127-02	METRO	HARPETH DUP		16:16	2.00	2.00	2.00	1.00	0.004	4.8				
1501127-03	METRO	COOPER		16:17	2.00	2.00	2.00	1.00	0.007	11.5				
1501127-04	METRO	PAGES		16:18	2.00	2.00	2.00	1.00	0.004	4.8				
1502001-01	METRO	COMM FF		16:19	2.00	2.00	2.00	1.00	0.116	255.2				
1502001-03	METRO	COMM 1HR		16:20	2.00	2.00	2.00	1.00	0.086	188.1				
1502001-05	METRO	TRANS FF		16:21	2.00	2.00	2.00	1.00	0.033	69.7				
1502001-07	METRO	TRANS 1HR		16:22	2.00	2.00	2.00	1.00	0.020	40.6				
1502001-09	METRO	OPEN SPACE FF		16:23	2.00	2.00	2.00	1.00	0.025	51.8				
1502001-11	METRO	OPEN SPACE 1HR		16:24	2.00	2.00	2.00	1.00	0.013	24.9				
SEQ-CCV	QC	14D0459	400	16:25	2.00	2.00	2.00	1.00	0.186	411.7		90.0%	110.0%	
SEQ-CCB	QC	DI H2O	0	16:26	2.00	2.00	2.00	1.00	0.000	-4.1				
5B04004-MSD1	QC	1502001-07	240	16:27	2.00	2.00	2.00	1.00	0.118	259.7	108.2%			
1501134-04	CB&I	ADW01		16:28	2.00	2.00	2.00	2.00	0.007	23.1				
SEQ-CCV	QC	14D0457	100	16:29	2.00	2.00	2.00	1.00	0.047	101.0	101.0%	90.0%	110.0%	
SEQ-CCB	QC	DI H2O	0	16:30	2.00	2.00	2.00	1.00	0.000	-4.1				

Comments: MS 1.4 mL of sample with 0.60 mL of 800ppm standard

1501134

	Type	Analysis	Sample Name	Sample ID	Dilution	Result	Comment	Status
1	Unknown	NPOC	SEQ-CCV	15A0718 TV=25ppm	1.000	NPOC:28.31mg/L	9060A Quad	Completed
2	Unknown	NPOC	SEQ-CCB	QC	1.000	NPOC:0.1424mg/L		Completed
3	Unknown	NPOC	5B05019-BLK1	QC	1.000	NPOC:0.1175mg/L		Completed
4	Unknown	NPOC	5B05019-BS1	15A0426 TV=25ppm	1.000	NPOC:27.87mg/L		Completed
5	Unknown	NPOC	1501116-02	CB&I	1.000	NPOC:0.8343mg/L		Completed
6	Unknown	NPOC	1501116-03	CB&I	1.000	NPOC:0.5685mg/L		Completed
7	Unknown	NPOC	1501116-04	CB&I	1.000	NPOC:0.5672mg/L		Completed
8	Unknown	NPOC	1501116-05	CB&I	1.000	NPOC:0.6652mg/L		Completed
9	Unknown	NPOC	5B05019-MS1	CB&I	1.000	NPOC:16.44mg/L	15ppm	Completed
10	Unknown	NPOC	5B05019-MSD1	CB&I	1.000	NPOC:15.80mg/L	15ppm	Completed
11	Unknown	NPOC	1501116-06	CB&I	1.000	NPOC:0.2240mg/L		Completed
12	Unknown	NPOC	1501116-07	CB&I	1.000	NPOC:0.6794mg/L		Completed
13	Unknown	NPOC	1501124-03	CB&I	1.000	NPOC:0.3623mg/L		Completed
14	Unknown	NPOC	1501124-04	CB&I	1.000	NPOC:0.4133mg/L		Completed
15	Unknown	NPOC	1501124-05	CB&I	1.000	NPOC:0.5264mg/L		Completed
16	Unknown	NPOC	SEQ-CCV	15A0719 TV=50ppm	1.000	NPOC:57.11mg/L		Completed
17	Unknown	NPOC	SEQ-CCB	QC	1.000	NPOC:0.1265mg/L		Completed
18	Unknown	NPOC	1501134-03	CB&I	1.000	NPOC:1.638mg/L		Completed
19	Unknown	NPOC	1502012-01	ENSAFE	1.000	NPOC:5.687mg/L		Completed
20	Unknown	NPOC	1502012-02	ENSAFE	1.000	NPOC:3.036mg/L		Completed
21	Unknown	NPOC	1502026-01	ENSAFE	1.000	NPOC:7.547mg/L		Completed
22	Unknown	NPOC	5B05019-MS2	ENSAFE	1.000	NPOC:23.53mg/L	15ppm	Completed
23	Unknown	NPOC	5B05019-MSD2	ENSAFE	1.000	NPOC:22.94mg/L	15ppm	Completed
24	Unknown	NPOC	1502026-02	ENSAFE	1.000	NPOC:4.244mg/L		Completed
25	Unknown	NPOC	SEQ-CCV	15A0718 TV=25ppm	1.000	NPOC:24.08mg/L		Completed
26	Unknown	NPOC	SEQ-CCB	QC	1.000	NPOC:0.1185mg/L		Completed

2-5-2014 Analysis

Seq.# 5B04116

Cal. # 5023004

2nd ✓

2026-02 = $\frac{49.06}{11.56}$ 4.24 mg/L

2nd vBLR
2/12/15

Instr.Information

System: Shimadzu TOC-Vws
Detector: Wet Chemical

Sample

Sample Name: SEQ-CCV
Sample ID: 15A0718 TV=25ppm
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status: Completed
Chk. Result:

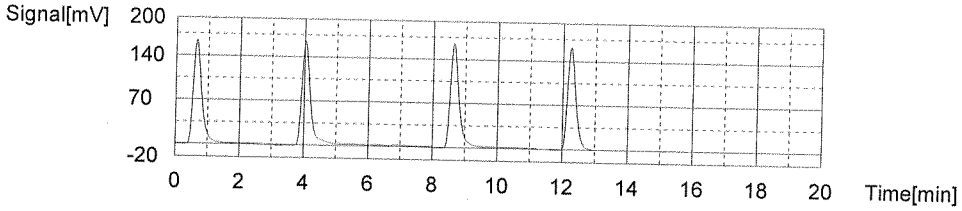
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:28.31mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	328.5	28.42mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 3:49:52 PM
2	344.8	29.83mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 3:56:51 PM
3	339.3	29.35mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 4:02:51 PM
4	296.6	25.66mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 4:07:22 PM

Mean Area 327.3
Mean Conc. 28.31mg/L



Sample

Sample Name: SEQ-CCB
Sample ID: QC
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status: Completed
Chk. Result:

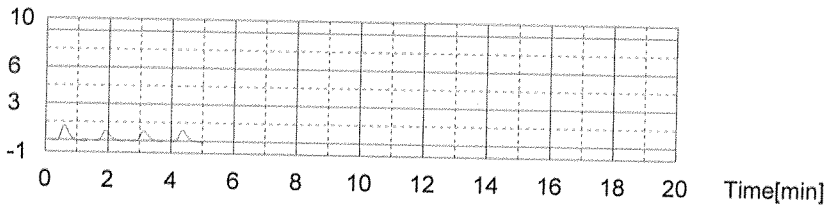
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.1424mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.134	0.1846mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 4:17:33 PM
2	1.379	0.1193mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 4:21:09 PM
3	1.470	0.1272mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 4:24:46 PM
4	1.600	0.1384mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 4:29:17 PM

Mean Area 1.646
Mean Conc. 0.1424mg/L



Sample

Sample Name: 5B05019-BLK1
Sample ID: QC
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

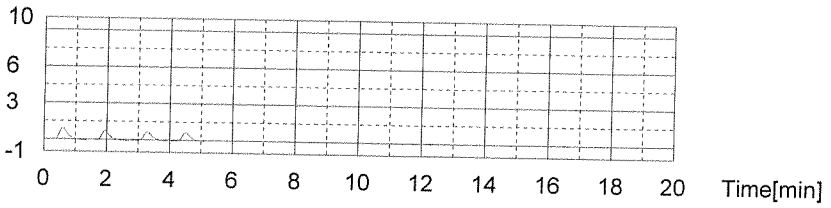
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.1175mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.641	0.1420mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 4:39:30 PM
2	1.374	0.1189mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 4:43:13 PM
3	1.234	0.1068mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 4:46:50 PM
4	1.182	0.1023mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 4:51:21 PM

Mean Area 1.358
Mean Conc. 0.1175mg/L



Sample

Sample Name: 5B05019-BS1
Sample ID: 15A0426 TV=25ppm
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

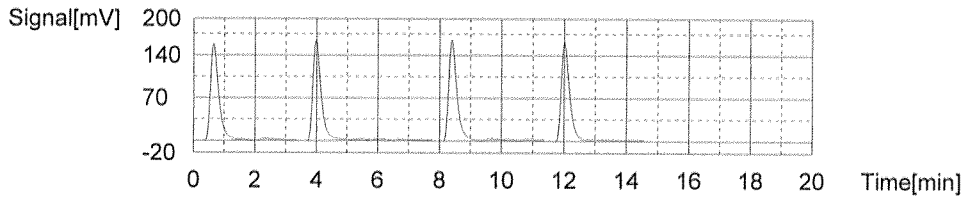
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:27.87mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	311.3	26.93mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 5:03:33 PM
2	334.0	28.89mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 5:10:31 PM
3	327.8	28.36mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 5:17:14 PM
4	315.6	27.30mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 5:22:59 PM

Mean Area 322.2
Mean Conc. 27.87mg/L



Sample

Sample Name: 1501116-02
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

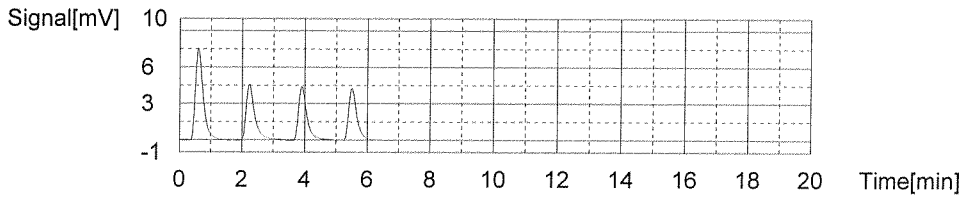
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.8343mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	13.54	1.171mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 5:35:35 PM
2	8.886	0.7687mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 5:39:38 PM
3	8.371	0.7242mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 5:43:37 PM
4	7.780	0.6731mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 5:48:08 PM

Mean Area 9.644
Mean Conc. 0.8343mg/L



Sample

Sample Name: 1501116-03
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

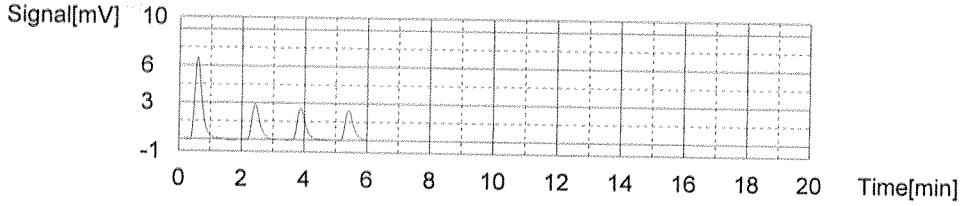
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.5685mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	11.50	0.9949mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 5:58:49 PM
2	5.263	0.4553mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:02:39 PM
3	4.902	0.4241mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:06:34 PM
4	4.620	0.3997mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:11:05 PM

Mean Area 6.571
Mean Conc. 0.5685mg/L



Sample

Sample Name: 1501116-04
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

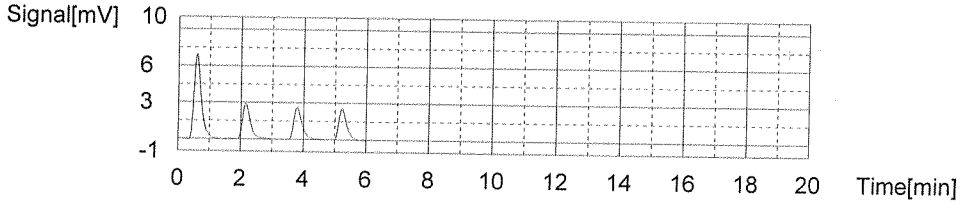
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.5672mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	11.48	0.9931mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:21:30 PM
2	5.273	0.4562mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:25:31 PM
3	4.870	0.4213mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:29:20 PM
4	4.604	0.3983mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:33:51 PM

Mean Area 6.557
Mean Conc. 0.5672mg/L



Sample

Sample Name: 1501116-05
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

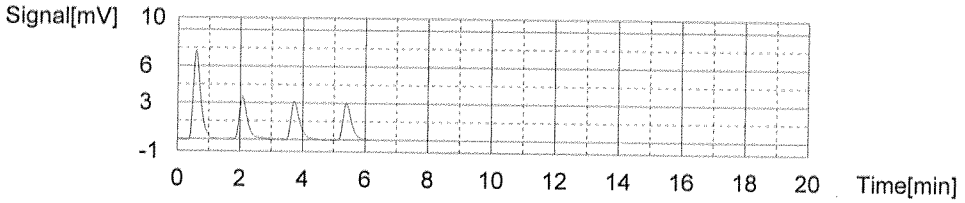
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.6652mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	12.43	1.075mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:44:11 PM
2	6.360	0.5502mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:48:13 PM
3	6.260	0.5416mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:52:16 PM
4	5.709	0.4939mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 6:56:47 PM

Mean Area 7.690
Mean Conc. 0.6652mg/L



Sample

Sample Name: 5B05019-MS1
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

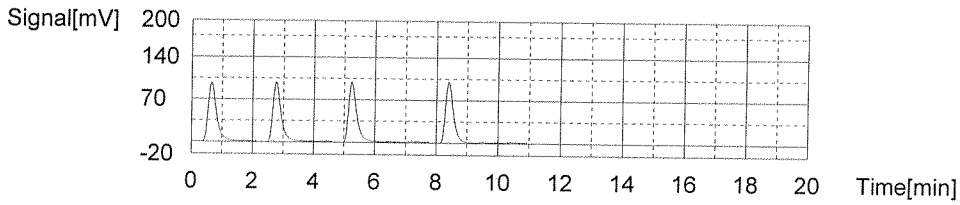
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:16.44mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	189.0	16.35mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 7:07:46 PM
2	190.4	16.47mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 7:12:38 PM
3	190.7	16.50mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 7:18:10 PM
4	190.0	16.44mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 7:24:34 PM

Mean Area 190.0
Mean Conc. 16.44mg/L



Sample

Sample Name: 5B05019-MSD1
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

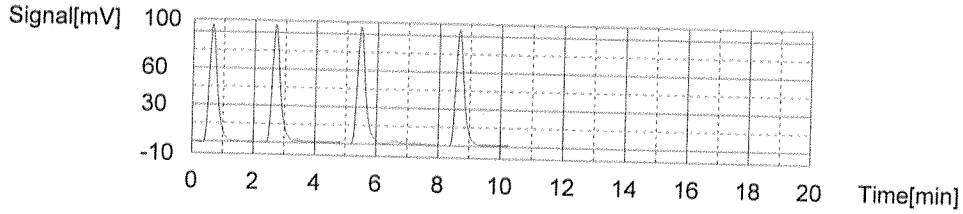
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:15.80mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	181.5	15.70mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 7:37:31 PM
2	184.6	15.97mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 7:42:41 PM
3	185.2	16.02mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 7:48:15 PM
4	179.2	15.50mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 7:54:38 PM

Mean Area 182.6
Mean Conc. 15.80mg/L



Sample

Sample Name: 1501116-06
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

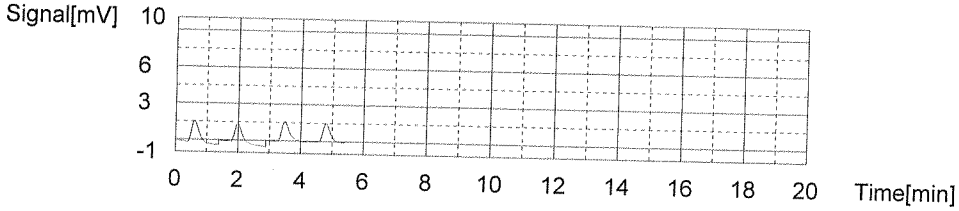
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.2240mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.776	0.2402mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:06:55 PM
2	2.228	0.1927mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:10:48 PM
3	2.829	0.2447mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:14:30 PM
4	2.523	0.2183mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:19:01 PM

Mean Area 2.589
Mean Conc. 0.2240mg/L



Sample

Sample Name: 1501116-07
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

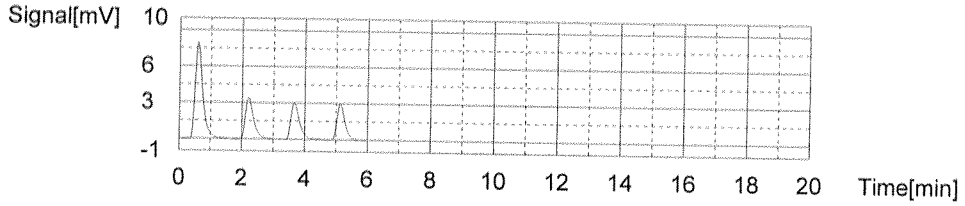
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.6794mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	13.71	1.186mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:29:29 PM
2	6.413	0.5548mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:33:19 PM
3	5.794	0.5012mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:37:10 PM
4	5.498	0.4756mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:41:41 PM

Mean Area 7.854
Mean Conc. 0.6794mg/L



Sample

Sample Name: 1501124-03
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

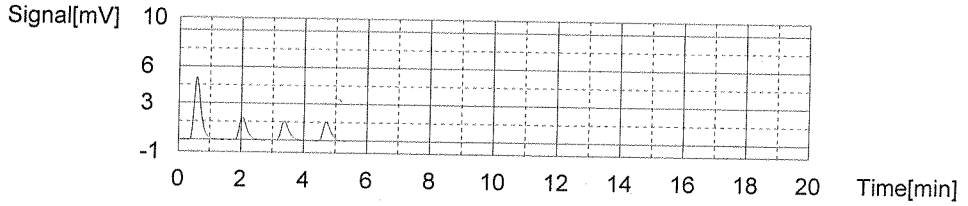
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.3623mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.082	0.6992mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:52:00 PM
2	3.218	0.2784mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:55:43 PM
3	2.785	0.2409mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 8:59:26 PM
4	2.669	0.2309mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 9:03:57 PM

Mean Area 4.189
Mean Conc. 0.3623mg/L



Sample

Sample Name: 1501124-04
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

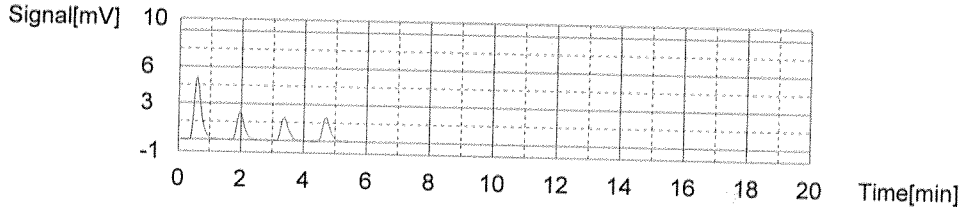
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.4133mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.271	0.7155mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 9:14:11 PM
2	3.891	0.3366mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 9:17:58 PM
3	3.457	0.2991mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 9:21:41 PM
4	3.491	0.3020mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 9:26:12 PM

Mean Area 4.778
Mean Conc. 0.4133mg/L



Sample

Sample Name:
Sample ID:
Origin:
Status
Chk. Result

1501124-05
CBI
01-19-15Q.2015_01_19_11_33_04.cal
Completed

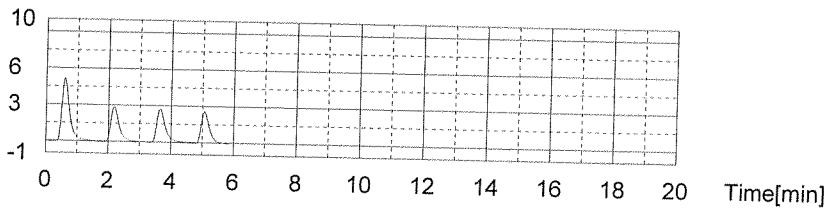
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.5264mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.061	0.7839mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 9:36:38 PM
2	5.358	0.4635mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 9:40:29 PM
3	5.140	0.4447mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 9:44:17 PM
4	4.781	0.4136mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 9:48:48 PM

Mean Area 6.085
Mean Conc. 0.5264mg/L



Sample

Sample Name:
Sample ID:
Origin:
Status
Chk. Result

SEQ-CCV
15A0719 TV=50ppm
01-19-15Q.2015_01_19_11_33_04.cal
Completed

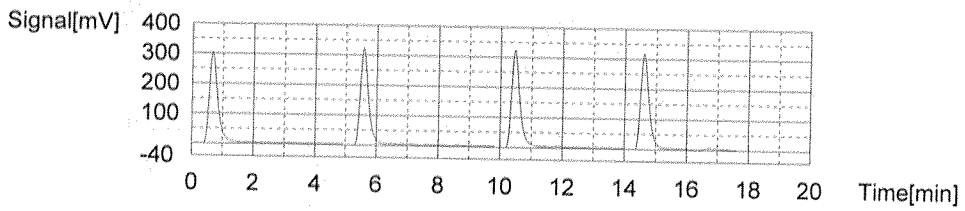
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:57.11mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	642.2	55.56mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 10:02:34 PM
2	663.3	57.38mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 10:10:35 PM
3	664.6	57.49mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 10:17:07 PM
4	670.5	58.01mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 10:23:56 PM

Mean Area 660.1
Mean Conc. 57.11mg/L



Sample

Sample Name: SEQ-CCB
Sample ID: QC
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

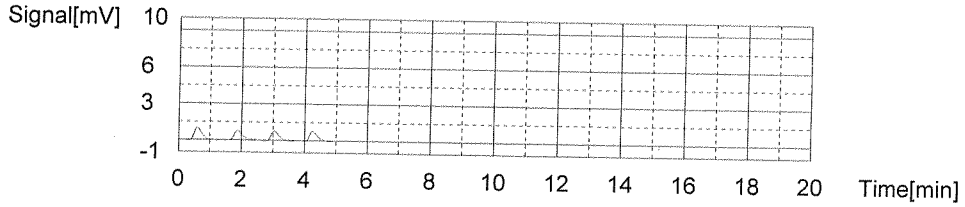
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.1265mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.789	0.1548mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 10:36:09 PM
2	1.346	0.1164mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 10:39:41 PM
3	1.346	0.1164mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 10:43:17 PM
4	1.369	0.1184mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 10:47:48 PM

Mean Area 1.462
Mean Conc. 0.1265mg/L



Sample

Sample Name: 1501134-03
Sample ID: CBI
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

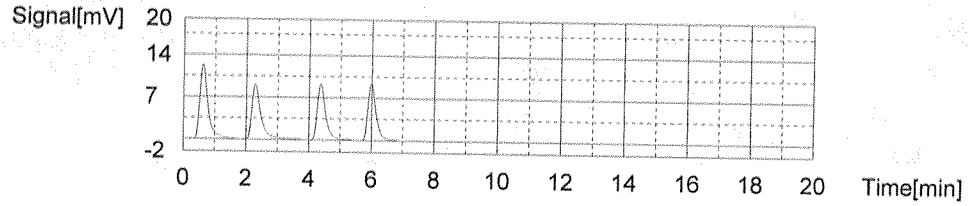
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:1.638mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	22.42	1.940mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 10:58:19 PM
2	18.36	1.588mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:02:47 PM
3	17.59	1.522mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:06:47 PM
4	17.37	1.503mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:11:18 PM

Mean Area 18.94
Mean Conc. 1.638mg/L



Sample

Sample Name: 1502012-01
Sample ID: ENSAFE
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

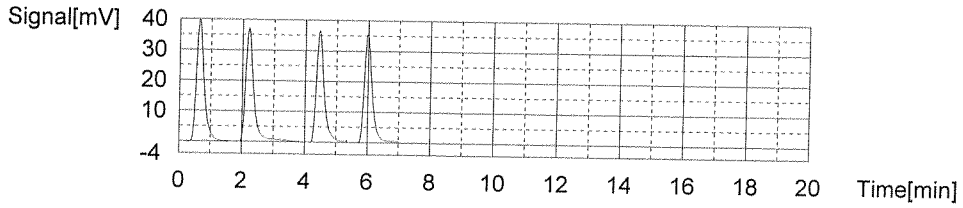
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:5.687mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	69.79	6.038mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:21:44 PM
2	67.44	5.834mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:26:22 PM
3	62.68	5.422mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:30:56 PM
4	63.04	5.454mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:35:27 PM

Mean Area 65.74
Mean Conc. 5.687mg/L



Sample

Sample Name: 1502012-02
Sample ID: ENSAFE
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

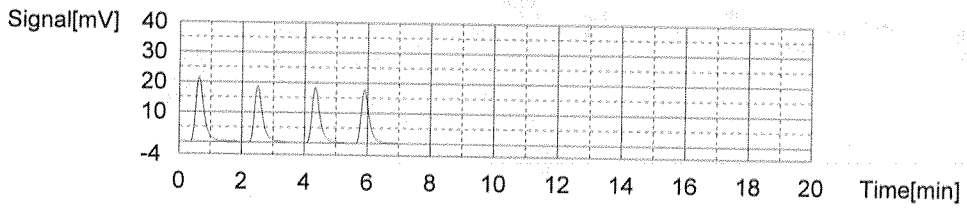
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:3.036mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	40.26	3.483mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:46:11 PM
2	34.73	3.005mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:50:24 PM
3	33.12	2.865mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:54:26 PM
4	32.25	2.790mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/5/2015 11:58:57 PM

Mean Area 35.09
Mean Conc. 3.036mg/L



Sample

Sample Name: 1502026-01
Sample ID: ENSAFE
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

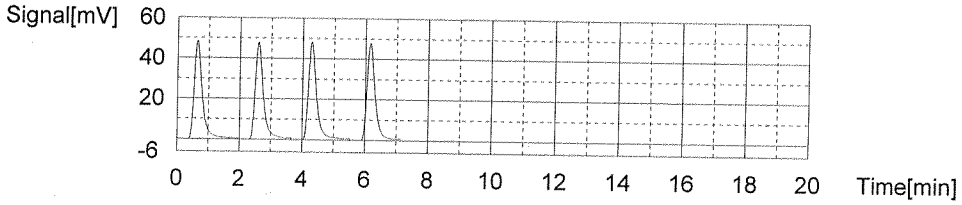
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:7.547mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	88.06	7.618mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 12:09:46 AM
2	87.06	7.532mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 12:13:51 AM
3	87.82	7.597mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 12:18:06 AM
4	86.01	7.441mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 12:22:37 AM

Mean Area 87.24
Mean Conc. 7.547mg/L



Sample

Sample Name: 5B05019-MS2
Sample ID: ENSAFE
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

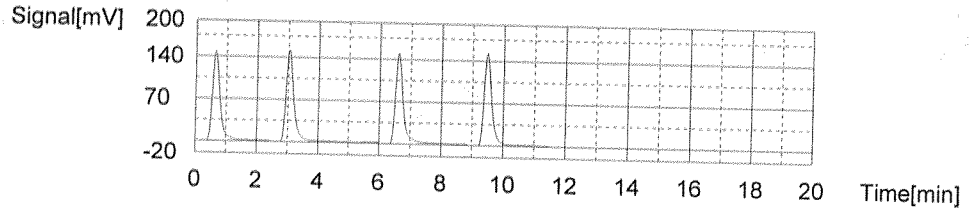
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:23.53mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	264.1	22.85mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 12:33:52 AM
2	280.2	24.24mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 12:39:49 AM
3	274.0	23.70mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 12:45:04 AM
4	269.8	23.34mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 12:50:48 AM

Mean Area 272.0
Mean Conc. 23.53mg/L



Sample

Sample Name: 5B05019-MSD2
Sample ID: ENSAFE
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

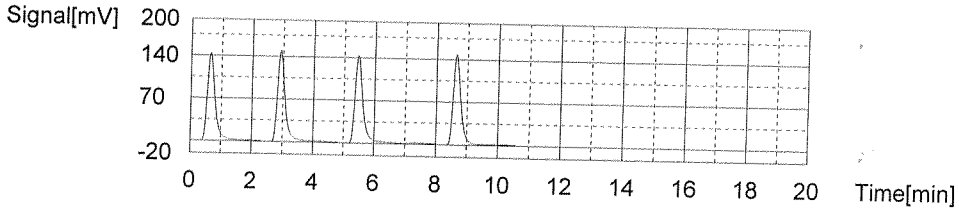
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:22.94mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	258.9	22.40mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 1:03:59 AM
2	269.1	23.28mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 1:08:54 AM
3	270.0	23.36mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 1:15:11 AM
4	262.8	22.73mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 1:20:58 AM

Mean Area 265.2
Mean Conc. 22.94mg/L



Sample

Sample Name: 1502026-02
Sample ID: ENSAFE
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

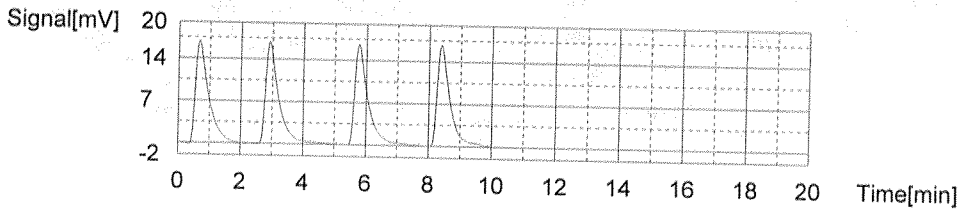
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:4.244mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	51.55	4.460mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 1:34:07 AM
2	49.20	4.256mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 1:39:20 AM
3	48.78	4.220mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 1:44:20 AM
4	46.71	4.041mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 1:50:05 AM

Mean Area 49.06
Mean Conc. 4.244mg/L



Sample

Sample Name: SEQ-CCV
Sample ID: 15A0718 TV=25ppm
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

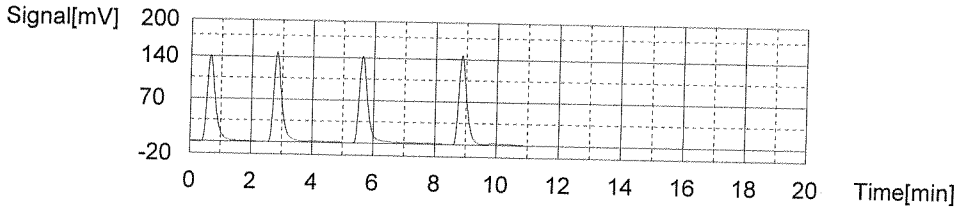
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:24.08mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	271.0	23.44mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 2:03:10 AM
2	282.1	24.40mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 2:08:21 AM
3	283.2	24.50mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 2:14:43 AM
4	277.3	23.99mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 2:20:27 AM

Mean Area 278.4
Mean Conc. 24.08mg/L



Sample

Sample Name: SEQ-CCB
Sample ID: QC
Origin: 01-19-15Q.2015_01_19_11_33_04.cal
Status Completed
Chk. Result

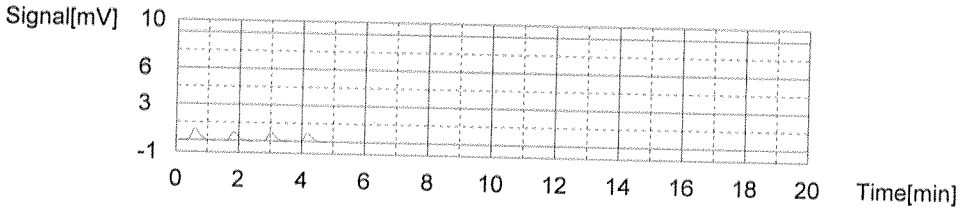
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.1185mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1.744	0.1509mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 2:32:36 AM
2	1.231	0.1065mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 2:36:10 AM
3	1.265	0.1094mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 2:39:43 AM
4	1.237	0.1070mg/L	350uL	2		01-19-15Q.2015_01_19_11_33_04.cal	2/6/2015 2:44:14 AM

Mean Area 1.369
Mean Conc. 0.1185mg/L



TOC-V Cal Curve Information
01-19-15Q.2015_01_19_11_33_04.cal

Date of Creation	10:35:54 AM 1/19/2015
User	RBURR
System	Shimadzu TOC-Vws

Cal. Curve

Sample Name:	Untitled
Sample ID:	Untitled
Cal. Curve:	01-19-15Q.2015_01_19_11_33_04.cal
Status	Completed
Comment:	

Type	Anal.
Standard	NPOC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1.831	350uL	2	*******		1/19/2015 11:42:33
2	1.286	350uL	2	*******		1/19/2015 11:45:43
3	1.255	350uL	2	*******		1/19/2015 11:48:52
4	1.213	350uL	2	*******		1/19/2015 11:53:07

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	1.396
SD Area	0.2914
CV Area	20.87%
Vial	1
WetChem Oxid.	1.5mL

Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	11.99	350uL	2	*******		1/19/2015 12:03:18
2	11.78	350uL	2	*******		1/19/2015 12:06:45
3	11.72	350uL	2	*******		1/19/2015 12:10:11
4	11.42	350uL	2	*******		1/19/2015 12:14:26

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	11.73
SD Area	0.2354
CV Area	2.01%
Vial	2
WetChem Oxid.	1.5mL

Conc: 2.500mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	25.55	350uL	2	*******		1/19/2015 12:24:39
2	27.06	350uL	2	*******		1/19/2015 12:28:11
3	28.51	350uL	2	*******		1/19/2015 12:31:59
4	26.05	350uL	2	*******		1/19/2015 12:36:15

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	26.79
SD Area	1.306
CV Area	4.87%
Vial	3
WetChem Oxid.	1.5mL

Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	51.30	350uL	2	*******		1/19/2015 12:46:38 I
2	51.69	350uL	2	*******		1/19/2015 12:50:19 I
3	52.69	350uL	2	*******		1/19/2015 12:54:41 I
4	50.84	350uL	2	*******		1/19/2015 12:58:56 I

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	51.63
SD Area	0.7874
CV Area	1.53%
Vial	4
WetChem Oxid.	1.5mL

Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	108.0	350uL	2	*******		1/19/2015 1:09:51 P
2	111.3	350uL	2	*******		1/19/2015 1:14:06 P
3	109.4	350uL	2	*******		1/19/2015 1:18:05 P
4	103.9	350uL	2	*******		1/19/2015 1:22:20 P

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	108.2
SD Area	3.140
CV Area	2.90%
Vial	5
WetChem Oxid.	1.5mL

Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	248.9	350uL	2	*******		1/19/2015 1:32:48 P
2	290.8	350uL	2	*******		1/19/2015 1:38:14 P
3	273.0	350uL	2	*******		1/19/2015 1:42:06 P
4	280.0	350uL	2	*******		1/19/2015 1:46:21 P

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	273.2
SD Area	17.76
CV Area	6.50%
Vial	6
WetChem Oxid.	1.5mL

Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	563.3	350uL	2	*******		1/19/2015 1:57:06 P
2	559.5	350uL	2	*******		1/19/2015 2:01:01 P
3	574.4	350uL	2	*******		1/19/2015 2:05:00 P
4	541.7	350uL	2	*******		1/19/2015 2:09:15 P

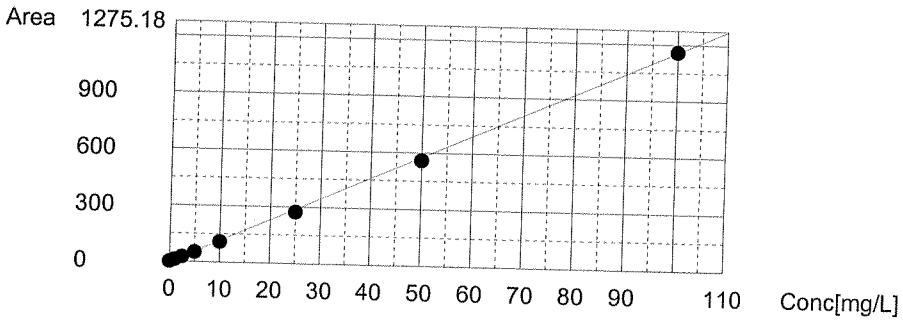
Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	559.7
SD Area	13.58
CV Area	2.43%
Vial	7
WetChem Oxid.	1.5mL

Conc: 100.0mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1263	350uL	2	*******		1/19/2015 2:22:09 P
2	1278	350uL	2	*******		1/19/2015 2:27:30 P
3	1024	350uL	2	*******		1/19/2015 2:31:36 P
4	1072	350uL	2	*******		1/19/2015 2:37:04 P

Acid Add.	3.000%
Sp. Time	180.0sec
Mean Area	1159
SD Area	130.1
CV Area	11.22%
Vial	8
WetChem Oxid.	1.5mL

Slope:	11.56
Intercept	0.000
r^2	0.9996
r	0.9998
Zero Shift	Yes



Sequence Overview

Sequence Details

Name:	**021015**	*Created On:*	**26/Mar/14 13:54:45**
Directory:	**Instrument Data_ICS-2100\2015\Feb2015**	*Created By:*	**Thermo Elctron NA**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**10/Feb/15 21:42:15**
No. of Injections:	**36**	*Updated By:*	**NSH-IONC2**

Injection Details

No.	Injection Name	Position	Type	Level	Inject Time	Status
1	BLANK	1	Unknown		10/Feb/15 11:01:10	Finished
2	SEQ-CCV1	2	Unknown		10/Feb/15 11:18:56	Finished
3	SEQ-CCB1	3	Unknown		10/Feb/15 11:36:46	Finished
4	SEQ-CRL1	4	Unknown		10/Feb/15 11:54:36	Finished
5	SEQ-CRL2	5	Unknown		10/Feb/15 12:12:26	Finished
6	SEQ-CRL3	6	Unknown		10/Feb/15 12:30:17	Finished
7	5B10010-BLK1	7	Unknown		10/Feb/15 12:48:07	Finished
8	5B10010-BS1	8	Unknown		10/Feb/15 13:05:57	Finished
9	1502055-01	9	Unknown		10/Feb/15 13:23:48	Finished
10	1502055-02	10	Unknown		10/Feb/15 13:41:38	Finished
11	1501078-01@10X	11	Unknown		10/Feb/15 13:59:29	Finished
12	1501134-03RE1@2X	12	Unknown		10/Feb/15 14:17:19	Finished
13	1501138-01	13	Unknown		10/Feb/15 14:35:10	Finished
14	1501138-03	14	Unknown		10/Feb/15 14:53:00	Finished
15	1501138-05	15	Unknown		10/Feb/15 15:10:51	Finished
16	1501138-07	16	Unknown		10/Feb/15 15:28:42	Finished
17	5B10010-MS1	17	Unknown		10/Feb/15 15:46:31	Finished
18	5B10010-MSD1	18	Unknown		10/Feb/15 16:04:21	Finished
19	5B10010-DUP1	19	Unknown		10/Feb/15 16:22:11	Finished
20	1501138-09	20	Unknown		10/Feb/15 16:40:02	Finished
21	1501138-11	21	Unknown		10/Feb/15 16:57:53	Finished
22	SEQ-CCV2	22	Unknown		10/Feb/15 17:15:43	Finished
23	SEQ-CCB2	23	Unknown		10/Feb/15 17:33:35	Finished
24	1501138-13	24	Unknown		10/Feb/15 17:51:25	Finished
25	1501138-15	25	Unknown		10/Feb/15 18:09:15	Finished
26	1501138-17	26	Unknown		10/Feb/15 18:27:05	Finished
27	1501138-19	27	Unknown		10/Feb/15 18:44:55	Finished
~~28~~	~~1502010-02RE1~~	~~28~~	~~Unknown~~		~~10/Feb/15 19:02:46~~	~~Finished~~
29	1502029-01	29	Unknown		10/Feb/15 19:20:37	Finished
30	1502029-02	30	Unknown		10/Feb/15 19:38:27	Finished
31	5B10010-MS2	31	Unknown		10/Feb/15 19:56:18	Finished
32	5B10010-MSD2	32	Unknown		10/Feb/15 20:14:08	Finished
33	5B10010-DUP2	33	Unknown		10/Feb/15 20:31:59	Finished
34	SEQ-CCV3	34	Unknown		10/Feb/15 20:49:49	Finished
35	SEQ-CCB3	35	Unknown		10/Feb/15 21:07:40	Finished
36	BLANK	36	Unknown		10/Feb/15 21:25:30	Finished

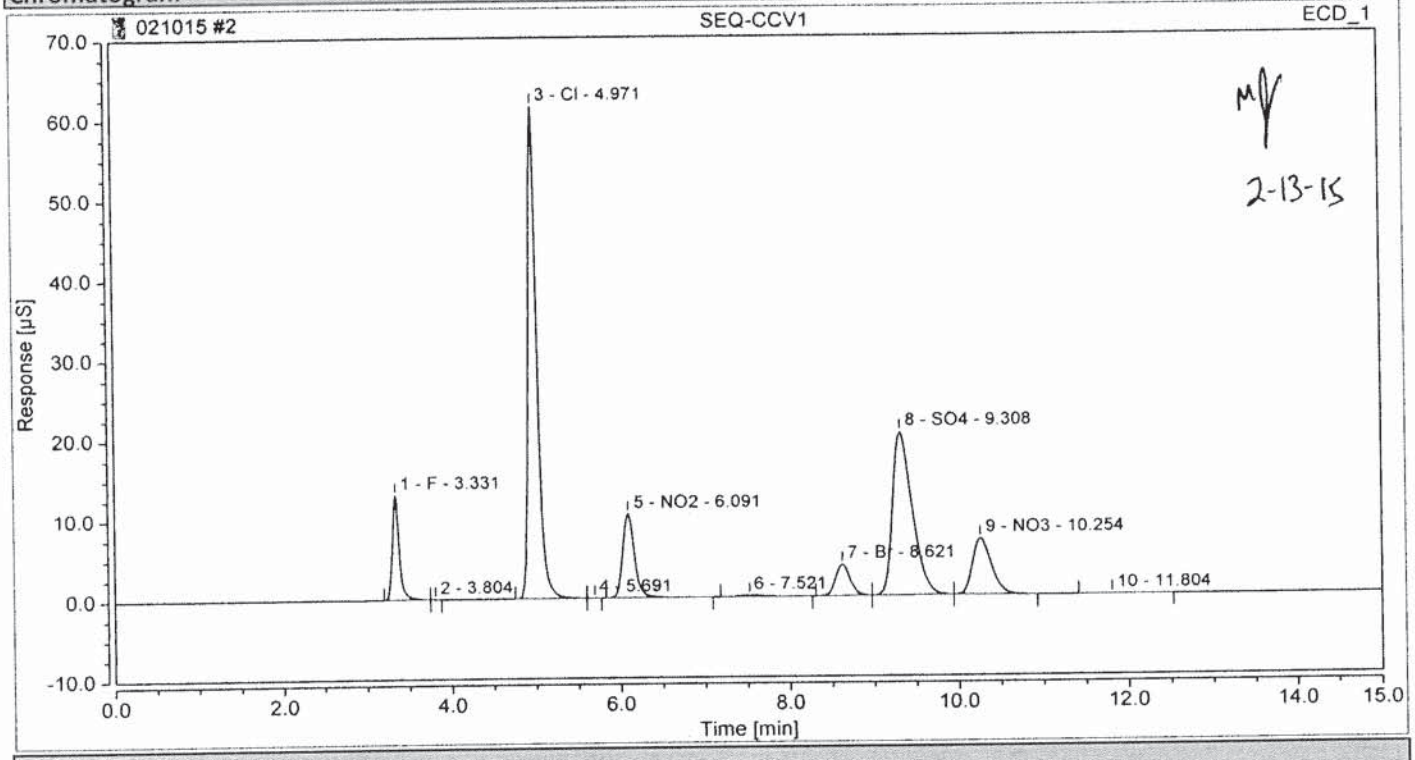
Not JSD

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CCV1**	*Run Time (min):*	**15.00**
Vial Number:	**2**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**10/Feb/15 11:18**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.331	1.2530304	13.077	6.73	11.22	2.5649
2		3.804	0.0003398	0.005	0.00	0.00	n.a.
3	Cl	4.971	7.4954608	61.448	40.24	52.72	24.8883
4		5.691	0.0000647	0.001	0.00	0.00	n.a.
5	NO2	6.091	1.6882902	10.462	9.06	8.98	2.5503
6		7.521	0.0558057	0.184	0.30	0.16	n.a.
7	Br	8.621	0.7810062	3.928	4.19	3.37	6.0723
8	SO4	9.308	5.5274979	20.399	29.67	17.50	27.2632
9	NO3	10.254	1.8187108	7.023	9.76	6.03	2.4659
10		11.804	0.0077467	0.021	0.04	0.02	n.a.
Total:			**18.628**	**116.548**	**100.00**	**100.00**	

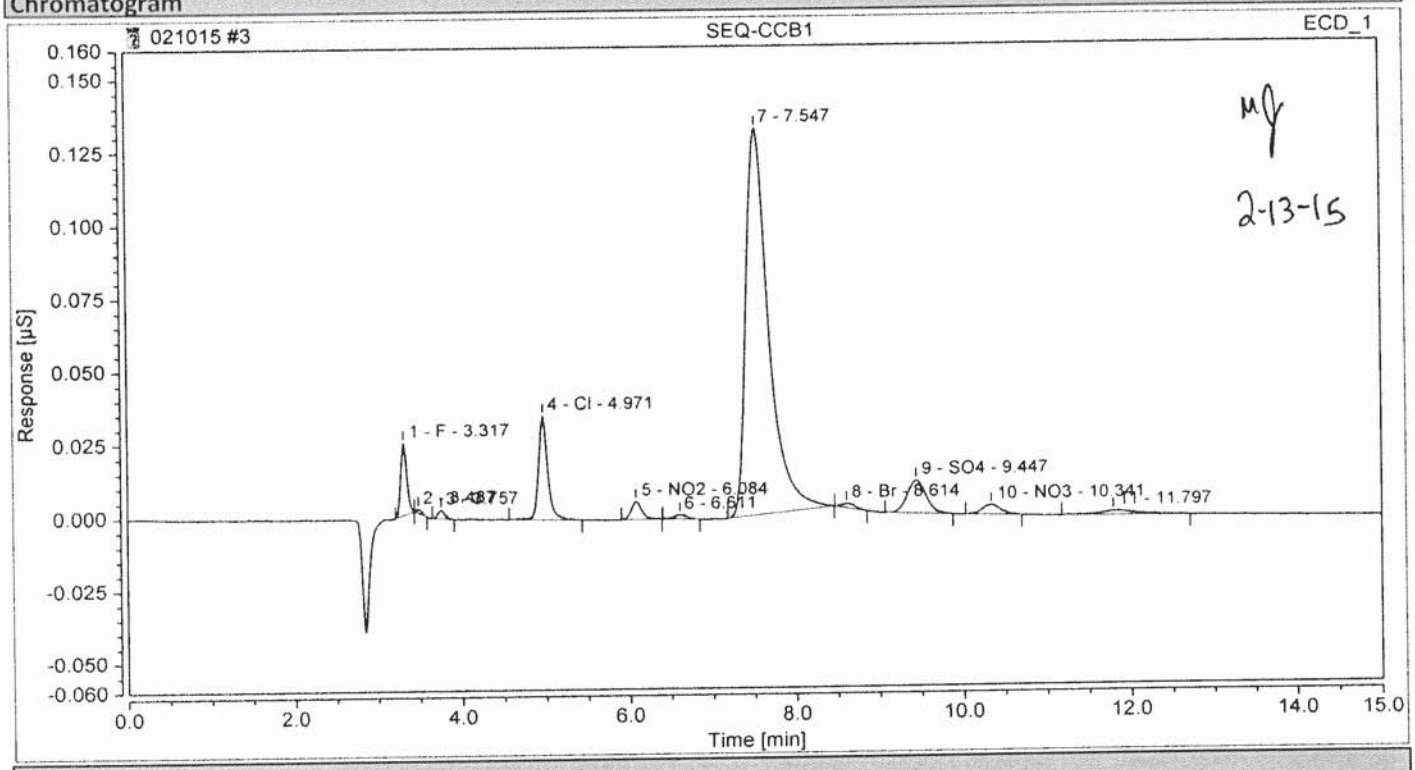
02/13/15

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CCB1**	*Run Time (min):*	**15.00**
Vial Number:	**3**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**10/Feb/15 11:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.317	0.0019591	0.025	3.57	11.05	0.0040
2		3.487	0.0001069	0.001	0.20	0.62	n.a.
3		3.757	0.0002933	0.003	0.53	1.35	n.a.
4	Cl	4.971	0.0045226	0.035	8.25	15.97	0.0150
5	NO2	6.084	0.0009227	0.006	1.68	2.78	0.0014
6		6.611	0.0002573	0.002	0.47	0.68	n.a.
7		7.547	0.0418588	0.132	76.36	59.63	n.a.
8	Br	8.614	0.0002990	0.002	0.55	0.68	0.0023
9	SO4	9.447	0.0029609	0.011	5.40	5.09	0.0146
10	NO3	10.341	0.0008680	0.003	1.58	1.52	0.0012
11		11.797	0.0007705	0.001	1.41	0.62	n.a.
Total:			**0.055**	**0.222**	**100.00**	**100.00**	

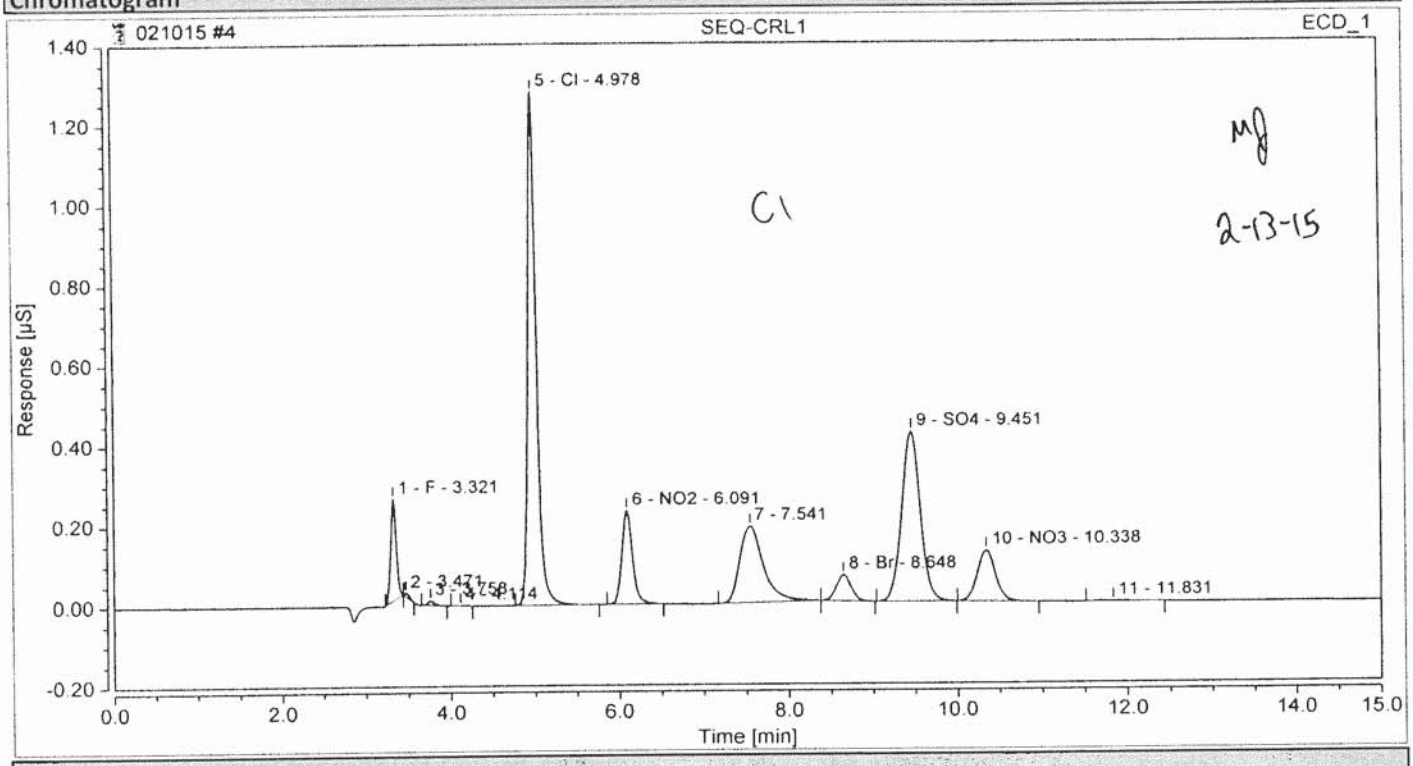
02/13/15

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CRL1**	*Run Time (min):*	**15.00**
Vial Number:	**4**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**10/Feb/15 11:54**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.321	0.0197325	0.253	4.67	9.75	0.0404
2		3.471	0.0005921	0.008	0.14	0.31	n.a.
3		3.758	0.0010600	0.011	0.25	0.44	n.a.
4		4.114	0.0000751	0.001	0.02	0.02	n.a.
5	Cl	4.978	0.1521230	1.280	36.02	49.37	0.5051
6	NO2	6.091	0.0341502	0.233	8.09	9.00	0.0516
7		7.541	0.0610469	0.191	14.46	7.35	n.a.
8	Br	8.648	0.0132465	0.065	3.14	2.52	0.1030
9	SO4	9.451	0.1083300	0.423	25.65	16.33	0.5343
10	NO3	10.338	0.0315711	0.127	7.48	4.88	0.0428
11		11.831	0.0003960	0.001	0.09	0.04	n.a.
Total:			**0.422**	**2.593**	**100.00**	**100.00**	

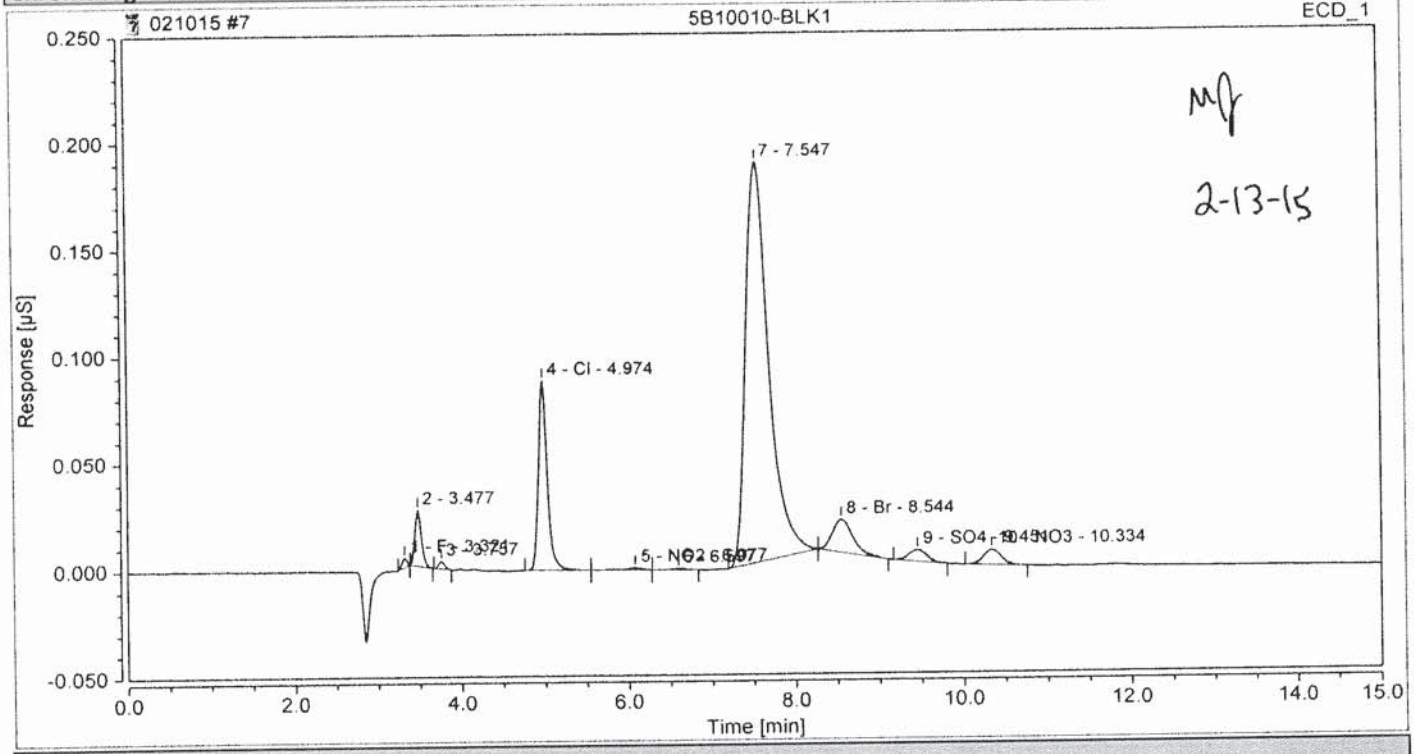
02/13/15

Chromatogram and Results

Injection Details

Injection Name:	**5B10010-BLK1**	*Run Time (min):*	**15.00**
Vial Number:	**7**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**10/Feb/15 12:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.321	0.0002826	0.004	0.35	1.26	0.0006
2		3.477	0.0023814	0.026	2.92	7.69	n.a.
3		3.757	0.0003117	0.004	0.38	1.06	n.a.
4	Cl	4.974	0.0107794	0.088	13.23	26.08	0.0358
5	NO2	6.077	0.0002586	0.001	0.32	0.34	0.0004
6		6.597	0.0001261	0.001	0.15	0.19	n.a.
7		7.547	0.0598490	0.187	73.45	55.15	n.a.
8	Br	8.544	0.0043293	0.015	5.31	4.52	0.0337
9	SO4	9.451	0.0013805	0.005	1.69	1.61	0.0068
10	NO3	10.334	0.0017849	0.007	2.19	2.10	0.0024
Total:			**0.081**	**0.339**	**100.00**	**100.00**	

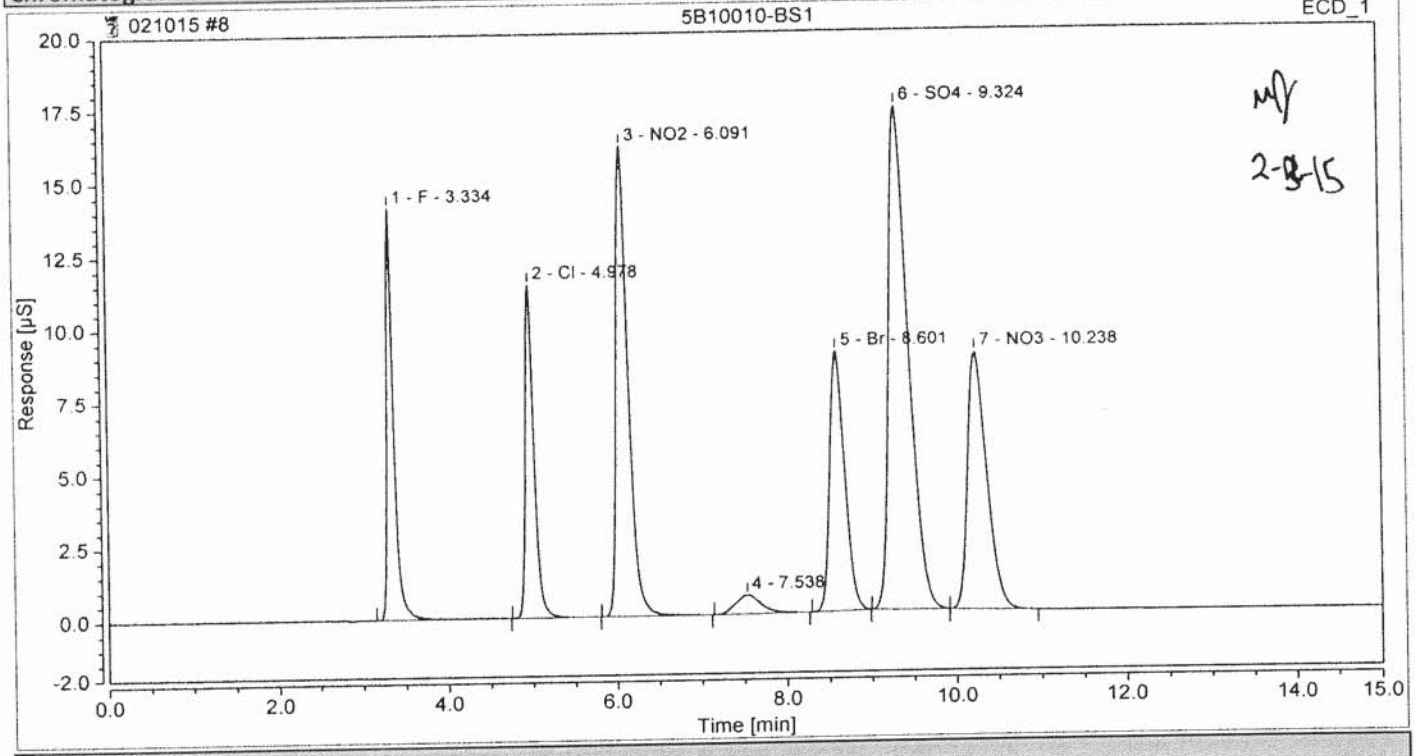
02/13/15

Chromatogram and Results

Injection Details

Injection Name:	**5B10010-BS1**	*Run Time (min):*	**15.00**
Vial Number:	**8**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**10/Feb/15 13:05**	*Sample Weight:*	**1.0000**

Chromatogram



MV 2-B-15

Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.334	1.4078263	14.103	9.74	18.23	2.8818
2	Cl	4.978	1.3737790	11.440	9.50	14.79	4.5616
3	NO2	6.091	2.6907753	16.121	18.61	20.84	4.0646
4		7.538	0.2282583	0.649	1.58	0.84	n.a.
5	Br	8.601	1.8103521	8.924	12.52	11.54	14.0755
6	SO4	9.324	4.6245571	17.274	31.99	22.33	22.8096
7	NO3	10.238	2.3200352	8.850	16.05	11.44	3.1456
Total:			**14.456**	**77.361**	**100.00**	**100.00**	

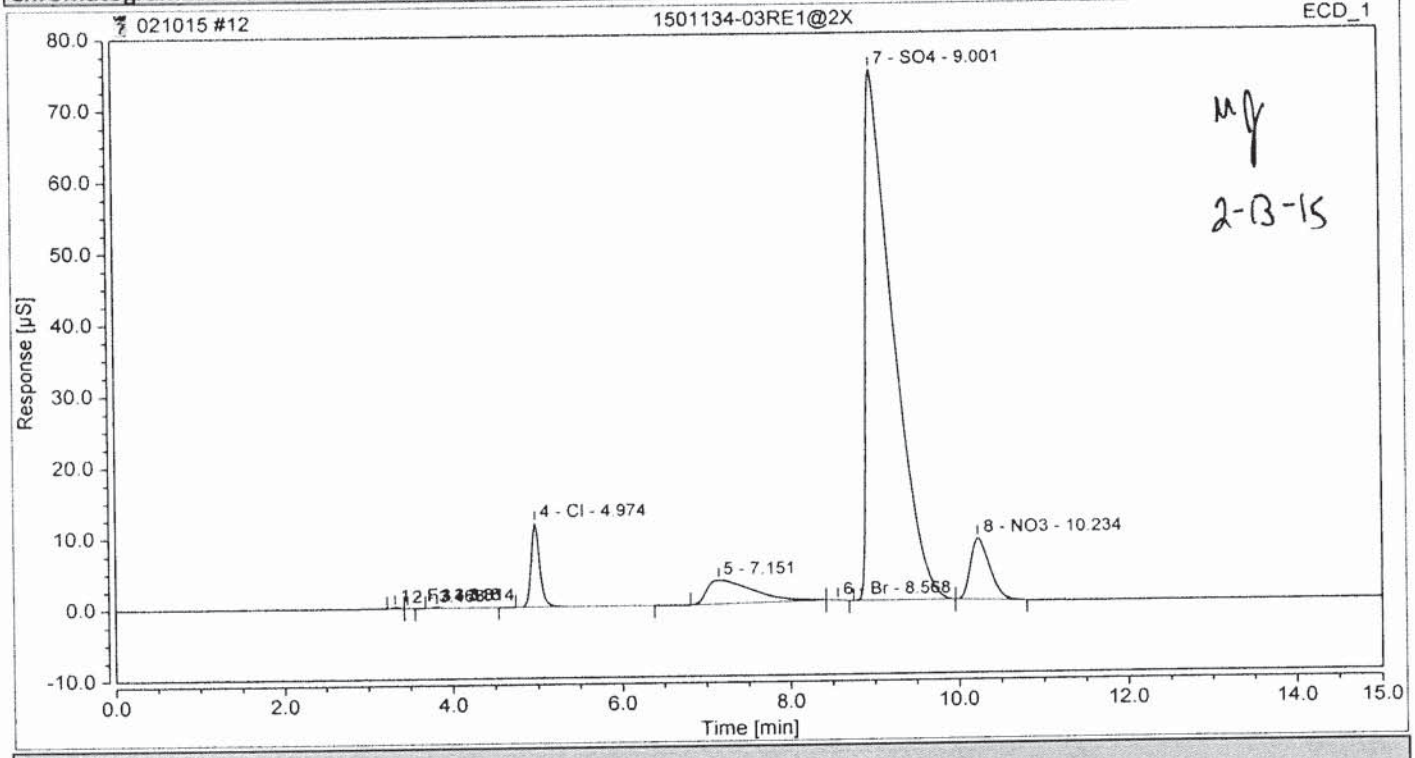
02/13/15

Chromatogram and Results

Injection Details

Injection Name:	**1501134-03RE1@2X**	*Run Time (min):*	**16.00**
Vial Number:	**12**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**10/Feb/15 14:17**	*Sample Weight:*	**1.0000**

Chromatogram



mf
2-13-15

Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.318	0.0145105	0.188	0.04	0.19	0.0297
2		3.468	0.0009005	0.013	0.00	0.01	n.a.
3		3.814	0.0144383	0.142	0.04	0.14	n.a.
4	Cl	4.974	1.4094082	11.821	4.19	11.99	4.6799
n.a.	NO2	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5		7.151	2.1292669	3.325	6.32	3.37	n.a.
6	Br	8.568	0.0012903	0.009	0.00	0.01	0.0100
7	SO4	9.001	27.8491022	74.478	82.72	75.53	137.3596
8	NO3	10.234	2.2490782	8.634	6.68	8.76	3.0494
Total:			**33.668**	**98.609**	**100.00**	**100.00**	

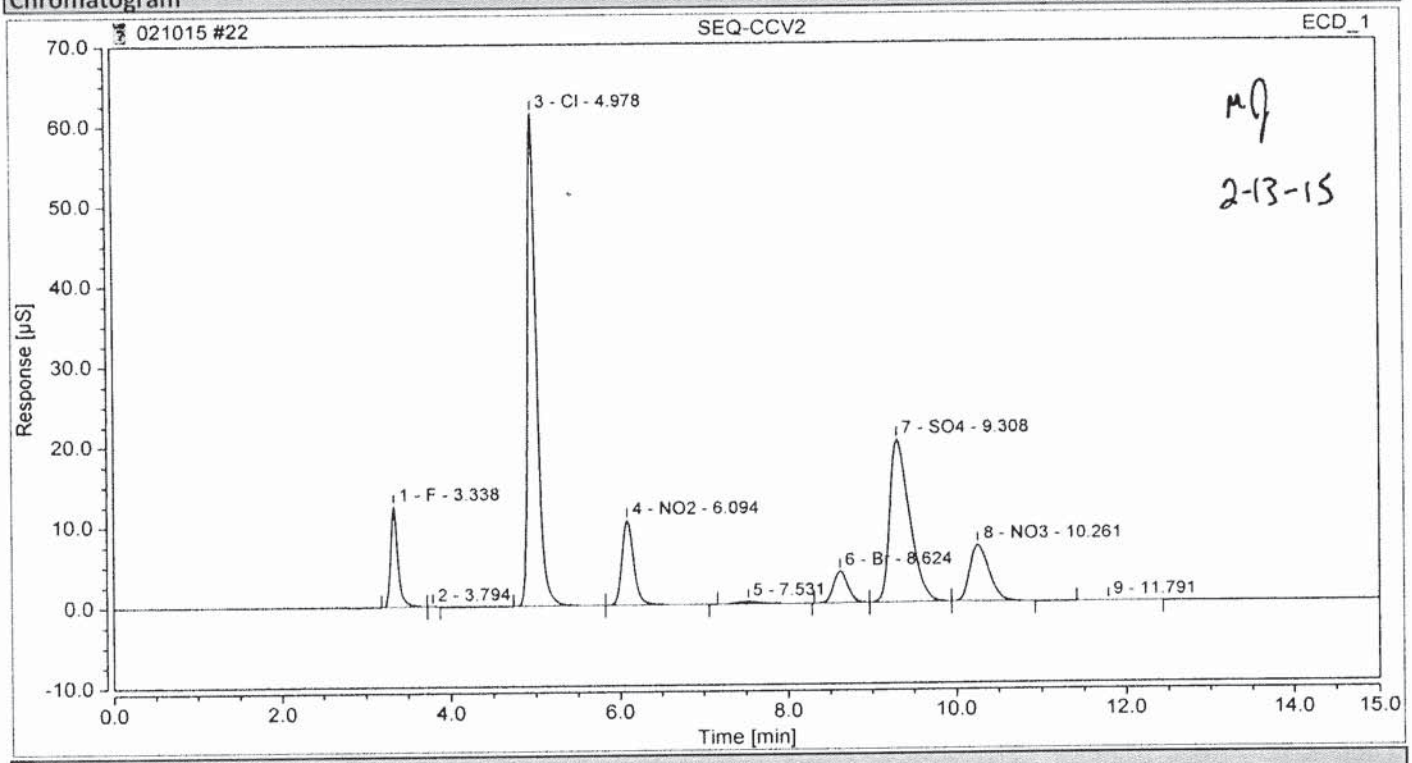
02/13/15

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CCV2**	*Run Time (min):*	**15.00**
Vial Number:	**22**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**10/Feb/15 17:15**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.338	1.2509974	12.504	6.65	10.78	2.5608
2		3.794	0.0004661	0.005	0.00	0.00	n.a.
3	Cl	4.978	7.5690501	61.424	40.24	52.94	25.1327
4	NO2	6.094	1.7116517	10.520	9.10	9.07	2.5856
5		7.531	0.1031817	0.307	0.55	0.26	n.a.
6	Br	8.624	0.7861446	3.941	4.18	3.40	6.1123
7	SO4	9.308	5.5486370	20.281	29.50	17.48	27.3674
8	NO3	10.261	1.8337695	7.034	9.75	6.06	2.4863
9		11.791	0.0035381	0.010	0.02	0.01	n.a.
Total:			**18.807**	**116.026**	**100.00**	**100.00**	

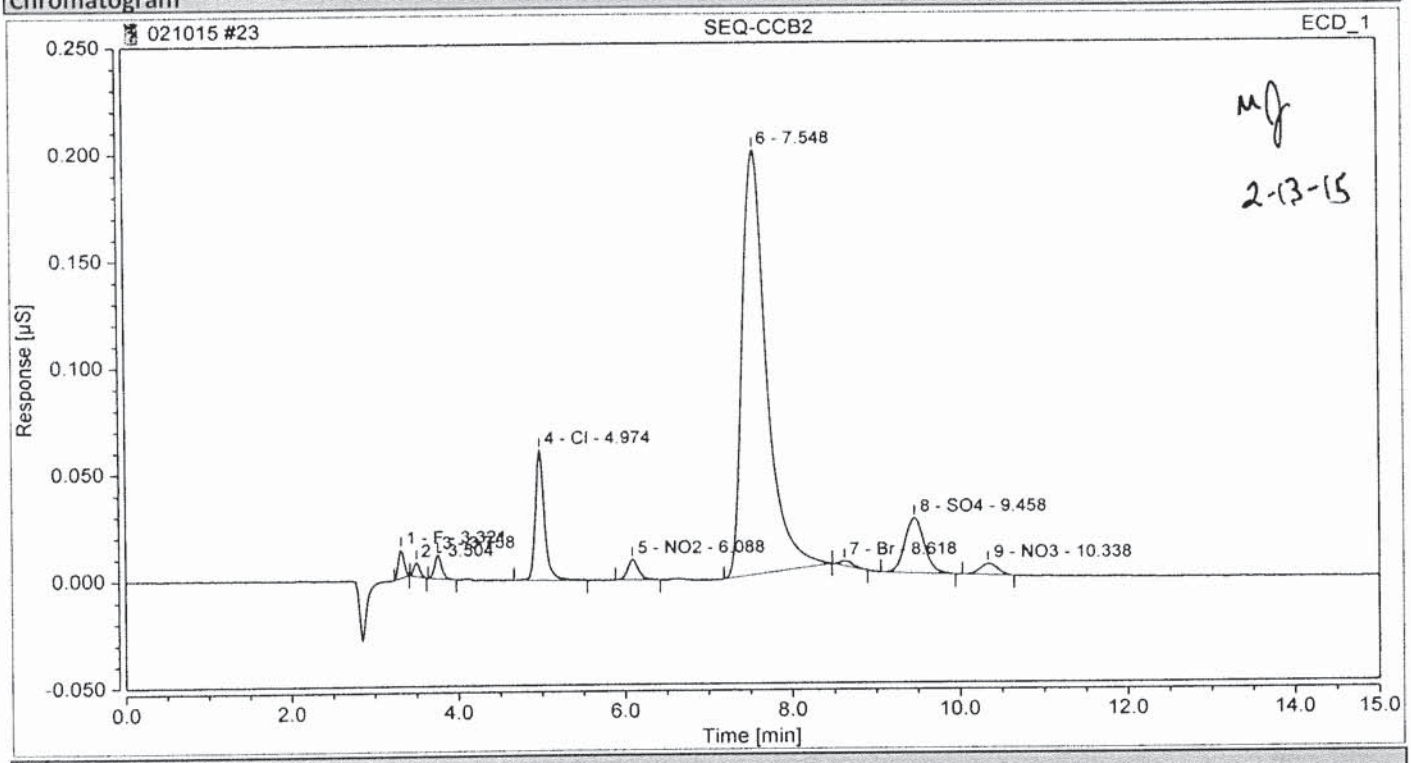
02/13/15

Chromatogram and Results

Injection Details

Injection Name:	**SEQ-CCB2**	*Run Time (min):*	**15.00**
Vial Number:	**23**	*Injection Volume:*	**25.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**220.0**
Instrument Method:	**AS18 InstMthd**	*Bandwidth:*	**n.a.**
Processing Method:	**IC2 Anion Processing Method**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**10/Feb/15 17:33**	*Sample Weight:*	**1.0000**

Chromatogram



MJ 2-13-15

Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount
1	F	3.321	0.0010332	0.013	1.19	4.00	0.0021
2		3.504	0.0005637	0.007	0.65	1.96	n.a.
3		3.758	0.0011156	0.011	1.28	3.37	n.a.
4	Cl	4.974	0.0076172	0.061	8.74	18.25	0.0253
5	NO2	6.088	0.0014601	0.010	1.68	2.89	0.0022
6		7.548	0.0666630	0.199	76.49	59.56	n.a.
7	Br	8.618	0.0004295	0.002	0.49	0.67	0.0033
8	SO4	9.458	0.0069669	0.026	7.99	7.72	0.0344
9	NO3	10.338	0.0013000	0.005	1.49	1.58	0.0018
Total:			**0.087**	**0.334**	**100.00**	**100.00**	

02/13/15

PREPARATION BENCH SHEET

5A30002

Empirical Laboratories, LLC **Printed: 2/6/2015 9:07:38AM**

Instrument:

Matrix: Water **Prepared using: GCLC - WC_PREP_ANIONS_W** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID		ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
1501039-01	I	WC_ANIONS_9056A (Short Ho	01/30/2015	5	5						NA	;BatchQC;Added for BatchQC in: 5A30002
1501039-01	I	WC_ANIONS_9056A (Regular)	01/30/2015	5	5						NA	;BatchQC;Added for BatchQC in: 5A30002
1501039-01	I	WC_ANIONS_300.0 (Regular)	01/30/2015	5	5						NA	;Br, Cl, SO4;
1501039-03	I	WC_ANIONS_300.0 (Regular)	01/30/2015	5	5						NA	;Br, Cl, SO4;
1501039-05	I	WC_ANIONS_300.0 (Regular)	01/30/2015	5	5						NA	;Br, Cl, SO4;
1501039-07	I	WC_ANIONS_300.0 (Regular)	01/30/2015	5	5						NA	;Br, Cl, SO4;
1501039-09	I	WC_ANIONS_300.0 (Regular)	01/30/2015	5	5						NA	;Br, Cl, SO4;
1501039-11	I	WC_ANIONS_300.0 (Regular)	01/30/2015	5	5						NA	;Br, Cl, SO4;
1501039-13	I	WC_ANIONS_300.0 (Regular)	01/30/2015	5	5						NA	;Br, Cl, SO4;
1501056-01	I	WC_ANIONS_300.0 (Regular)	01/30/2015	5	5						NA	;Br, Cl, SO4;
1501056-03	I	WC_ANIONS_300.0 (Regular)	01/30/2015	5	5						NA	;Br, Cl, SO4;
1501056-05	I	WC_ANIONS_300.0 (Regular)	01/30/2015	5	5						NA	;Br, Cl, SO4;
1501056-07	Z	WC_ANIONS_9056A (Regular)	01/30/2015	5	5						NA	MS/MSD;BatchQC;Added for BatchQC in: 5A30002
1501056-07	Z	WC_ANIONS_300.0 (Regular)	01/30/2015	5	5						NA	MS/MSD;Br, Cl, SO4;
1501056-07	Z	WC_ANIONS_9056A (Short Ho	01/30/2015	5	5						NA	MS/MSD;BatchQC;Added for BatchQC in: 5A30002
1501056-09	I	WC_ANIONS_300.0 (Regular)	01/30/2015	5	5						NA	;Br, Cl, SO4;
1501056-11	I	WC_ANIONS_300.0 (Regular)	01/30/2015	5	5						NA	;Br, Cl, SO4;

PREPARATION BENCH SHEET

5A30002

Empirical Laboratories, LLC **Printed: 2/6/2015 9:07:38AM**

Instrument:

Matrix: Water **Prepared using: GCLC - WC_PREP_ANIONS_W** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
1501056-13	I	WC_ANIONS_300.0 (Regular)	01/30/2015	5	5					NA	;Br, Cl, SO4;
1501056-15	I	WC_ANIONS_300.0 (Regular)	01/30/2015	5	5					NA	;Br, Cl, SO4;
1501056-17	I	WC_ANIONS_300.0 (Regular)	01/30/2015	5	5					NA	;Br, Cl, SO4;
1501056-19	I	WC_ANIONS_300.0 (Regular)	01/30/2015	5	5					NA	;Br, Cl, SO4;
1501134-03	F	WC_ANIONS_9056A (Short Ho	01/30/2015	5	5					NA	;;
1501134-03	F	WC_ANIONS_9056A (Regular)	01/30/2015	5	5					NA	;;
5A30002-BLK1		QC	01/30/2015	5	5					NA	
5A30002-BS1		QC	01/30/2015	5	5	14L0385		5000		NA	
5A30002-DUP1		QC	01/30/2015	5	5		1501039-01			NA	
5A30002-DUP2		QC	01/30/2015	5	5		1501056-07			NA	
5A30002-MS1		QC	01/30/2015	22.5	25	14J0774	1501039-01	2500		NA	
5A30002-MS2		QC	01/30/2015	22.5	25	14J0774	1501056-07	2500		NA	
5A30002-MSD1		QC	01/30/2015	22.5	25	14J0774	1501039-01	2500		NA	
5A30002-MSD2		QC	01/30/2015	22.5	25	14J0774	1501056-07	2500		NA	

Reagents Used:

Standard	Description

PREPARATION BENCH SHEET

5B04004

Empirical Laboratories, LLC **Printed: 2/20/2015 8:40:48AM**

Instrument:

Matrix: Water **Prepared using: WC - pNone** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
1501127-01	A	WC_COD_410.4	02/04/2015	2	2					NA	;;
1501127-02	A	WC_COD_410.4	02/04/2015	2	2					NA	;;
1501127-03	A	WC_COD_410.4	02/04/2015	2	2					NA	;;
1501127-04	A	WC_COD_410.4	02/04/2015	2	2					NA	;;
1501134-04	G	WC_COD_410.4	02/04/2015	2	2					NA	;;
1502001-01	D	WC_COD_410.4	02/04/2015	2	2					NA	;;
1502001-03	C	WC_COD_410.4	02/04/2015	2	2					NA	;;
1502001-05	D	WC_COD_410.4	02/04/2015	2	2					NA	;;
1502001-07	D	WC_COD_410.4	02/04/2015	2	2					NA	;;
1502001-09	D	WC_COD_410.4	02/04/2015	2	2					NA	;;
1502001-11	D	WC_COD_410.4	02/04/2015	2	2					NA	;;
5B04004-BLK1		QC	02/04/2015	2	2					NA	
5B04004-BS1		QC	02/04/2015	2	2	14H0106		2000		NA	
5B04004-MS1		QC	02/04/2015	2	2	14D0490	1502001-07	600		NA	
5B04004-MSD1		QC	02/04/2015	2	2	14D0490	1502001-07	600		NA	

Reagents Used:

Standard	Description
14J0672	COD Reagent Vials

PREPARATION BENCH SHEET

5B04004

Empirical Laboratories, LLC **Printed: 2/20/2015 8:40:48AM**

Instrument:

Matrix: Water **Prepared using: WC - pNone** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)

PREPARATION BENCH SHEET

5B04011

Empirical Laboratories, LLC **Printed: 2/10/2015 11:15:09AM**

Instrument:

Matrix: Water **Prepared using: WC - pNone** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
1501053-02	A	WC_PH_9040C	02/04/2015	20	20					NA	QSM5.0, Lot#N0115;Validate SOP within review! Check result against expected ranges!!!;Validate SOP within review! Check result against expected ranges!!!
1501108-01	G	WC_PH_CORROSIVITY	02/04/2015	20	20					NA	;;
1501109-01	A	WC_PH_CORROSIVITY	02/04/2015	20	20					NA	;BatchQC;Added for BatchQC in: 5B04011
1501109-01	A	WC_PH_9040C	02/04/2015	20	20					NA	;;
1501134-04	F	WC_PH_9040C	02/04/2015	20	20					NA	;;
1502003-01	A	WC_PH_9040C	02/04/2015	20	20					NA	;;
5B04011-BS1		QC	02/04/2015	20	20	15B0092		20000		NA	
5B04011-BS2		QC	02/04/2015	20	20	15B0092		20000		NA	
5B04011-DUP1		QC	02/04/2015	20	20		1501109-01			NA	

Reagents Used:

Standard	Description
14I0114	10.00 pH Buffer
14I0124	pH 7.0 Buffer Yellow
14J0081	pH 12.0 Buffer Colorless

PREPARATION BENCH SHEET

5B05019

Empirical Laboratories, LLC **Printed: 2/12/2015 2:03:20PM**

Instrument:

Matrix: Water **Prepared using: WC - pNone** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
1501116-02	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	;;
1501116-03	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	;;
1501116-04	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	;;
1501116-05	T	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	MS/MSD;MS/MSD;MS/MSD
1501116-06	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	;;
1501116-07	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	;;
1501124-03	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	;;
1501124-04	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	;;
1501124-05	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	;;
1501134-03	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	;;
1502012-01	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	Unpres. VOC;;
1502012-02	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	Unpres. VOC;;
1502026-01	U	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	MS/MSD, Unpres. VOC;;
1502026-02	G	WC_TOC_9060A_QUAD	02/05/2015	40	40					NA	Unpres. VOC;;
5B05019-BLK1		QC	02/05/2015	40	40					NA	
5B05019-BS1		QC	02/05/2015	40	40	15A0426		40000		NA	
5B05019-MS1		QC	02/05/2015	40	40	14F0560	1501116-05	600		NA	

PREPARATION BENCH SHEET

5B05019

Empirical Laboratories, LLC **Printed: 2/12/2015 2:03:20PM**

Instrument:

Matrix: Water **Prepared using: WC - pNone** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
5B05019-MS2		QC	02/05/2015	40	40	14F0560	1502026-01	600		NA	
5B05019-MSD1		QC	02/05/2015	40	40	14F0560	1501116-05	600		NA	
5B05019-MSD2		QC	02/05/2015	40	40	14F0560	1502026-01	600		NA	

Reagents Used:

Standard	Description
14L0603	TOC Phosphoric Acid Reagent
15A0462	TOC PERSULFATE REAGENT

PREPARATION BENCH SHEET

5B10010

Empirical Laboratories, LLC **Printed: 2/19/2015 10:17:33AM**

Instrument:

Matrix: Water **Prepared using: GCLC - WC_PREP_ANIONS_W** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID		ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
1501078-01	A	WC_ANIONS_9056A (Regular)	02/10/2015	5	5						NA	Filtered;Cl, F, SO4;10X due to Previous Matrix Issues; Cl, F, SO4
1501134-03RE1	-	WC_ANIONS_9056A (Regular)	02/10/2015	5	5						NA	;RE 2X for SO4; Added 2/3/2015 By MSJ;RE 2X for SO4; Added 2/3/2015 By MSJ
1501138-01	I	WC_ANIONS_300.0 (Regular)	02/10/2015	5	5						NA	;Br, Cl, SO4;Br, Cl, SO4
1501138-03	I	WC_ANIONS_300.0 (Regular)	02/10/2015	5	5						NA	;Br, Cl, SO4;Br, Cl, SO4
1501138-05	I	WC_ANIONS_300.0 (Regular)	02/10/2015	5	5						NA	;Br, Cl, SO4;Br, Cl, SO4
1501138-07	Z	WC_ANIONS_9056A (Regular)	02/10/2015	5	5						NA	MS/MSD;BatchQC;Added for BatchQC in: 5B10010
1501138-07	Z	WC_ANIONS_300.0 (Short Hol	02/10/2015	5	5						NA	MS/MSD;BatchQC;Added for BatchQC in: 5B10010
1501138-07	Z	WC_ANIONS_300.0 (Regular)	02/10/2015	5	5						NA	MS/MSD;Br, Cl, SO4;Br, Cl, SO4
1501138-09	I	WC_ANIONS_300.0 (Regular)	02/10/2015	5	5						NA	;Br, Cl, SO4;Br, Cl, SO4
1501138-11	I	WC_ANIONS_300.0 (Regular)	02/10/2015	5	5						NA	;Br, Cl, SO4;Br, Cl, SO4
1501138-13	I	WC_ANIONS_300.0 (Regular)	02/10/2015	5	5						NA	;Br, Cl, SO4;Br, Cl, SO4
1501138-15	I	WC_ANIONS_300.0 (Regular)	02/10/2015	5	5						NA	;Br, Cl, SO4;Br, Cl, SO4
1501138-17	I	WC_ANIONS_300.0 (Regular)	02/10/2015	5	5						NA	;Br, Cl, SO4;Br, Cl, SO4
1501138-19	I	WC_ANIONS_300.0 (Regular)	02/10/2015	5	5						NA	;Br, Cl, SO4;Br, Cl, SO4
1502029-01	B	WC_ANIONS_300.0 (Regular)	02/10/2015	5	5						NA	;Cl, SO4;Cl, SO4
1502029-02	B	WC_ANIONS_9056A (Regular)	02/10/2015	5	5						NA	;BatchQC;Added for BatchQC in: 5B10010
1502029-02	B	WC_ANIONS_300.0 (Short Hol	02/10/2015	5	5						NA	;BatchQC;Added for BatchQC in: 5B10010

PREPARATION BENCH SHEET

5B10010

Empirical Laboratories, LLC **Printed: 2/19/2015 10:17:33AM**

Instrument:

Matrix: Water **Prepared using: GCLC - WC_PREP_ANIONS_W** **(No Surrogate)**

Lab Number	Cont ID	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	PH	Comments (Sample; Analysis; Extraction)
1502029-02	B	WC_ANIONS_300.0 (Regular)	02/10/2015	5	5					NA	;Cl, SO4;Cl, SO4
1502055-01	A	WC_ANIONS_300.0 (Short Hol	02/10/2015	5	5					NA	;see versions;see versions
1502055-02	A	WC_ANIONS_300.0 (Short Hol	02/10/2015	5	5					NA	;see versions;see versions
5B10010-BLK1		QC	02/10/2015	5	5					NA	
5B10010-BS1		QC	02/10/2015	5	5	15B0021		5000		NA	
5B10010-DUP1		QC	02/10/2015	5	5		1501138-07			NA	
5B10010-DUP2		QC	02/10/2015	5	5		1502029-02			NA	
5B10010-MS1		QC	02/10/2015	22.5	25	15B0016	1501138-07	2500		NA	
5B10010-MS2		QC	02/10/2015	22.5	25	15B0016	1502029-02	2500		NA	
5B10010-MSD1		QC	02/10/2015	22.5	25	15B0016	1501138-07	2500		NA	
5B10010-MSD2		QC	02/10/2015	22.5	25	15B0016	1502029-02	2500		NA	

Reagents Used:

Standard	Description